INVENTORS AND MONEY-MAKERS

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INVENTORS AND MONEY-MAKERS

Lectures on Some Relations Between Economics and Psychology.

By F. W. TAUSSIG

Ph.D., LL.B., Litt.D. Henry Lee Professor of Economics in Harvard University, author of "International Trade," etc.

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INVENTORS AND MONEY-MAKERS

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INVENTORS AND MONEY-MAKERS

LECTURES ON SOME RELATIONS BETWEEN ECONOMICS AND PSYCHOLOGY DELIVERED AT BROWN UNIVERSITY IN CONNECTION WITH THE CELEBRATION OF THE 150TH ANNIVERSARY OF THE FOUNDATION OF THE UNIVERSITY

BY

F. W. TAUSSIG, PH.D., LL.B., LITT.D. 1859-

HENRY LEE PROFESSOR OF ECONOMICS
IN HARVARD UNIVERSITY

New York
THE MACMILLAN COMPANY
1930

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PREFACE

THIS volume gives the substance of lectures delivered at Brown University in connection with the celebration of the 150th anniversary of the university's foundation. The lectures as delivered were somewhat amplified for publication, and were annotated with some freedom.

The present edition, issued in response to demand from various quarters, is a reprint, with no change beyond a few additional annotations, of the first edition (1915). It had been my hope to take up the subject more fully, but other matters have absorbed my time and strength. I am compelled to ask the reader again to bear in mind what was said in the preface of the first edition, — that there is no pretense of dealing with all the relations between economics and psychology. The little volume is meant chiefly to arouse interest in the important topics that lie on

the borderline between economics and psychology and ethics.

I venture also to ask the reader's attention, and especially the attention of the reader versed in biology and psychology, to what is said on page 5 about my use of the word "instinct." In scientific quarters the word is probably even less in favor now than it was in 1915, as one appropriate for designating certain general bents and dispositions that are not easy to define with scientific precision. But I am still unable to find a term that serves better to direct attention to the play of men's aptitudes, motives, ambitions; and it is the import of these which I try to consider, not any theory of instinct in the sense which is given to that term in the world of science.

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INVENTORS AND MONEY-MAKERS

I

The Instinct of Contrivance

The text for these discourses I will take, as is appropriate for an economist's homily, from the "Wealth of Nations," a book which, though no longer our Bible, is to be revered still. After the famous opening chapter on the Division of Labor, Adam Smith goes on to consider why it is that this intricate form of industrial organization should have been developed; and he explains it thus:

"This division of labour, from which so many advantages are derived, is not originally the effect of any human wisdom, which foresees and intends that general opulence to which it gives occasion. It is the necessary,

though very slow and gradual, consequence of a certain propensity in human nature which has in view no such extensive utility; the propensity to truck, barter, and exchange one thing for another. . . . Whether this propensity be one of those original principles in human nature, of which no further account can be given; or whether, as seems more probable, it be the necessary consequence of the faculties of reason and speech, it belongs not to our present subject to enquire."

It has long been a matter of wonder for me that this passage received so little attention — indeed, so far as I am aware, no attention at all — from Adam Smith's successors. All the reasoning of the utilitarians who constituted the main body of his followers during the first half of the nineteenth century ran counter to such an explanation. No, the utilitarians must say: if there be a propensity to truck and barter, it is not the cause of the division of labor, but a result, or at least a precipitate. Men began to barter not because they were impelled to

do so by an original impulse of human nature, but because they found it to be advantageous; they found that they got more for their labor and pains by bartering than by single-handed activity. The division of labor and the operations of exchange came to pass simply because larger product — that is, more pleasure — was got from the same labor in production. The habit of exchange might indeed become strong as time went on, — so strong as to be mistaken for an inherent cause of action. It might become a confirmed and settled rule of expedient conduct, such as were all the political and moral axioms. Original propensities? The utilitarians recognized none such, except the primal desire to avoid pain and secure pleasure.

The psychologist of our own time, if confronted with Adam Smith's thesis and the utilitarian criticism, would speak with caution. Probably neither is quite in the right. The simple and mechanical psychology of the utilitarians and associationists is gone beyond rehabilitation. Original impulses

there are in plenty; and it is entirely within the bounds of possibility that one of them should be a propensity to truck and barter. But of the existence of this particular propensity we have no good evidence. Indeed, one of the very circumstances from which its existence was inferred by Adam Smith so far from confirming his analysis, tends to throw doubt on its innate character. The fact that no sign or analog of such an instinct is to be found among the lower animals makes the modern man of science question whether it is to be reckoned among the instincts of the human animal. All psychological speculation has been profoundly influenced by the course of biological research, and not least by that part of it which is concerned with comparisons between the conduct of man and of other animals. It is settled that we differ from the other animals in degree, not in kind; that, just as our physiological processes and the structure of our bodies are similar in kind to theirs, so are our reactions, our instincts, doubtless even our intelligence.

THE INSTINCT OF CONTRIVANCE

When we try to define and classify the human instincts, we look for indications in the simpler and more obvious animal instincts. If we find among animals something that is easily identified with a human propensity, — like the instinct of play, for example, — we accept it the more readily as a true instinct; and if we find nothing analogous among animals, we question whether we have one of the original propensities in man. And therefore our modern psychologist would doubtless say to Adam Smith about the propensity to truck and barter, — not proven; but would also say, in denial of the utilitarians and associationists, — not impossible.[1]

I have used the terms propensity, impulse, instinct. Classification and nomenclature on those topics are not settled, — a sufficient

[1] The only suggestion which points at all toward any such propensity which I have found in modern discussion is by Sombart (*Der Bourgeois*, p. 273 and passim), that certain races and peoples, *e.g.* the Florentines, the Scots, above all the Jews, have a rooted disposition (*Urveranlagung*) toward trading.

indication that there is lack of full agreement on the subject matter. The familiar word "instinct" is used to designate very diverse degrees of automatic impulse and conduct, from the simplest reflex actions to innate tendencies of a broad and general kind. It is the last named — general innate tendencies — which are chiefly had in mind by the writers on sociology and economics and politics. This diversity of usage has led Mr. Graham Wallas to propose that we adopt a new and noncommittal term — he suggests "dispositions" — to designate those general human tendencies whose influence as social forces we find so great.[1] But I am disposed to believe that, here as elsewhere, the economist gains rather than loses by holding fast to everyday phraseology. The very connotations of the word instinct are likely to be helpful to us, even though not so to the biologists or even the psychologists.

[1] *The Great Society*, Chs. II, III. Professor Veblen, on the other hand, sticks to the familiar term, instinct; see his *Instinct of Workmanship*, Introduction.

At all events, I shall speak freely of instincts; and the main theme in what follows will be the significance of the human "instincts" for the purposes of economic analysis.

To make out a schematic list of the social instincts would be pedantic, and indeed for the present discussion, superfluous. There is no accepted classification or enumeration; on this matter, as on terminology, opinions diverge. It will suffice to mention some of the instincts which on their face appear to be significant in economic inquiry. Perhaps most conspicuous among them, and that to which I shall chiefly give attention in the present lecture, is the instinct of contrivance or workmanship. Another which clearly has economic significance is accumulation, acquisitiveness, collection, ownership. Still others are domination, pugnacity, predation; sympathy or devotion; play, the chase, adventure; curiosity or ratiocination; and so on, through a list that might be considerably enlarged. Imitation and emulation, gregariousness, and the mere physiological im-

pulse to activity are of quite too general a character to be regarded as specific instincts. Yet they too must be considered by the economist. I do no more than mention the sexual impulse and the domestic affections; since these, too obvious to be entirely neglected, have not failed to receive attention in our science.[1]

Some of the instincts just mentioned, and perhaps others on which the psychologist would lay stress, can be dismissed, for the purposes of the present discussion, with comparatively scant mention. This can be done with the instinct of play, for example. It has great importance for some social problems. We have learned that it is among

[1] Nothing in modern discussion has contributed more to reshape opinion on this general topic than the chapter on instinct in James, *Principles of Psychology* (Vol. II, Ch. XXIV). Special reference should also be made to McDougall, *Social Psychology* (1910). Both books, superseded though they are in many respects, have had a lasting influence. An able treatment, more in accord with later scientific analysis, is in Z. C. Dickinson, *Economic Motives* (1922).

those which should not be balked; that it is one, too, whose full satisfaction brings no aftermath. The wise legislator and social reformer looks to it for relief from the monotony of our industrial life, for healthful and joyous vent to activity and emulation. Not only this; in production itself, in the irksome round of the everyday working world, the instinct of play may be utilized for giving some savor to that which might otherwise be hopelessly flat and stale. Yet its direct consequence in economics would seem to be chiefly in what is sometimes called the theory of consumption, — that uncertain group of topics in which it is difficult to get beyond platitude and exhortation. True, one might conceivably regard activity in play as a sort of training for economic power; just as it has been thought to promote political or military vigor. Wellington is said to have remarked that the battle of Waterloo was won on the playing fields of Eton. But the experiences of the American civil war and of the Franco-German war of 1870 throw doubt on the

validity of this pronouncement, even in the military sphere. Still more does modern industrial development in the United States and in Germany throw doubt on its applicability to that of economics. The truth would seem to be that much play, elaborate play, is a result of industrial prosperity rather than a cause of industrial efficiency. It is a concomitant of the ample income and the leisure which follow success in economic activity, but negligible among the causes of success. The instinct of play explains why people spend in certain directions — witness the "baseball business" — but not how they become possessed of the means for spending.

The same is true in the main of the instinct of the chase, unmistakably a survival from the stage of savagery. It is often treated as a form of the play instinct, and no doubt is similar to this in its modern manifestations. I am disposed to regard it as a more direct and simple inheritance from the period when hunting was as necessary for man as for any other predatory animal. At all events, its

satisfaction nowadays is among the "utilities" which men prize highly; it has its obvious effects on the direction of expenditure, and so in turn on the direction of "productive" effort. In the sweep of history the chase is of somewhat larger significance. Game laws play no small part in the tale of feudal oppression and even of agricultural development. It is not often recognized that the hated restrictions and requirements of the game laws were the consequences of an instinct which has in peculiar degree the quality of an automatic reaction, — inherited, atavistic, conventionalized, no longer serviceable, indeed probably disserviceable.

Let us turn now to some of the instincts which are direct and obvious springs of industrial activity. First among them may be considered that mentioned a moment ago, — the instinct of contrivance or workmanship.[1]

If Adam Smith had referred to this among the original propensities of which the econo-

[1] McDougall's term, "contrivance," seems to me better than Veblen's "workmanship."

mist needs to give no further account, the psychologist of our day would have rendered an opinion more unreservedly favorable than on the alleged propensity to truck and barter. There is abundant evidence that the human animal follows an instinct of contrivance. The utilitarians would indeed explain it in their familiar fashion: men contrive and invent *because* they find it advantageous to do so. But the matter is not so simple as this. The very comparison with the lower animals, which Adam Smith misapplied, may here be turned to support his general method of explanation. The instinct of contrivance is widespread in the animal world, — among insects, birds, mammals (the beaver is a notable illustration). In origin doubtless it goes back to the fact of having been at some stage advantageous. For its evolution, as for that of every other instinct, one turns almost as a matter of course to the Darwinian organon. Those creatures which were disposed to contrive had a better chance in the struggle than their fellows; they sur-

vived, and their nervous structure was transmitted to their descendants. We need not concern ourselves with the problems that vex the biologists and psychologists, — the first steps in variation, the mechanism of the transmission of characters, the relation between body and mind and that between instinct and experience. For our purposes it suffices that all are now agreed on the transmission of propensities as well as of anatomical structure. And among the inherited instincts, in men as in animals, we have to deal with that of contrivance and construction.

That there is a well-marked instinct of this sort is made tolerably certain by another kind of evidence: its unmistakable spontaneity and extraordinary development in some individuals. When a trait appears overwhelmingly and unmistakably in a few, we may infer that it is present to some degree among all, even though so weak at the other extreme of the scale as scarce to be recognizable. Such is the case with the instinct of

sympathy, love, devotion, — powerful to our amazement among a chosen few, hardly to be detected among the grossly selfish, yet in no person quite absent. The instinct of rhythm, again, is so spontaneous and impetuous in those of poetic and musical genius that we must suspect that we have to deal here also with one shared universally. So far as concerns the instinct of contrivance, we are familiar not only with its extreme manifestations but with its wide dispersion.

Every child likes to build with blocks and play with tools. When schoolboys or college undergraduates carve letters and numbers on their desks, they are no more deliberately wicked than they are when skylarking or ball playing: they obey the inborn bent. Every man likes to whittle. A new dodge appeals to all. The born inventor is among the best known figures in the chronicles of industry. No doubt the bent to contrivance is less specific in its direction among men than among animals, more various in degree, more likely to be overlaid and

complicated, to be thwarted or concealed. Such is the case with all our instincts. But it is none the less a true instinct, pressing imperiously to a specific kind of activity.

The biographies of inventors give abundant illustrations of the state of inward happiness which comes from the exercise of the contriving bent. Of Ericsson, for example, we read that "he was never so happy as when engaged with his drawing. . . . As a draughtsman he had no rival, past or present, and the outlines of new devices grew upon the paper as if by magic." [1] The most entertaining instance which I have come across is in an episode of Edison's life. For many years Edison was engaged on a venture in which the magnetite ores of New Jersey were to be the basis of a great iron and steel industry. A number of new methods in engineering and metallurgy had to be worked out, — crushing machinery of enormous power and novel design, huge magnets for separating the ore, concentrating apparatus, and

[1] Church, *Life of Ericsson*, Vol. II, p. 313.

so on. The great inventor showed here the same originality and the same extraordinary persistence as in the other enterprises more familiarly associated with his name. But the scheme, though its prosecution was accompanied by remarkable achievements in engineering, proved financially a failure. The concentrated ore could not be put on the market on terms to compete with the vast supplies of rich ore from the Lake Superior districts. Edison embarked in the venture the whole of the very considerable fortune which he had secured from his previous electric inventions, and lost it all. His friend and biographer relates that after the closing of the great works and the abandonment of the entire new-built village, "Mr. Edison and I were on our way from the cement plant at New Village, New Jersey, to his home at Orange. When we arrived at Dover, New Jersey, we got a New York newspaper, and I called his attention to the quotation of that day on General Electric. Mr. Edison then asked: 'If I hadn't sold any of mine, what

would it be worth to-day?' and after some figuring I replied: 'Over four million dollars.' When Mr. Edison is thinking seriously over a problem he is in the habit of pulling his right eyebrow, which he did now for fifteen or twenty seconds. Then his face lighted up, and he said: 'Well, it's all gone, but we had a hell of a good time spending it!'"

If now we admit that there is an instinct of contrivance, and that there is a keen satisfaction in following it, we are led to question the proposition that progress in the arts depends on an experience or prospect of gain. This had been the view of the older utilitarians: men contrived simply because this was conducive to gain, and would not contrive unless prompted by the experience and prospect of gain. Hence there must be premiums and prizes, patent laws, protected trade-marks, the bait of profit. But if there is a spontaneous impulse, — spontaneous in the sense of not being dependent for its initiation on a calculated gain, — we may be led

to conclude that the patent system, for example, is a huge mistake. Men would invent anyhow: they obey the instinct and therein take joy. So poets are actuated, musicians, men of science. In their activities we have long recognized the intrinsic satisfaction from the exercise of inborn impulse. It is at least a question whether copyright has aroused genius or evoked literature. The social reformer of idealistic type declares that all such sordid motivation is beside the mark. No doubt, once the practices and habits of the selfish competitive régime are established, men of all sorts will fall into them. But to say that the forward march of the industrial arts is dependent on a patent system is like saying that poetry, music, the plastic arts are merely forms of money-making.

The inquiry then must take another turn. Granted that there is the instinct, the question remains, what are the conditions under which it is evoked, what those under which it is made conducive to the general welfare? It is a commonplace in psychology that

instincts in man are less automatic, less specific in their direction than in animals, modifiable in greater degree through the lessons of experience and the exercise of the will. The environment is of enormous influence in developing some instincts, in smothering others. What are the simple and direct manifestations and consequences of the instinct of contrivance? How far have they been modified in the past by the surroundings familiar to us, how far are they likely to be modified in the future by different surroundings?

On these topics we are much in the dark; and this for the same cause that prevents decisive answers to many economic and social questions. We are unable, or at least unwilling, to experiment with ourselves. From infancy we are modified; from a very early stage we are subjected to varied experiences, inhibitions, stimulations, prepossessions. What most of us would be like if subjected rigorously and continuously to a selected set of influences we do not know at all. What

the poet or inventor would do if he grew up in a collectivist or communist society we must hesitate to say. The only direct evidence we have is from observation of men's doings in existing society, so very different in its psychological appeals. And even the evidence from observation is not direct. It is evidence from external conduct, and from occasional utterance, — of a kind that gives but uncertain clews on the problem of motivation. Almost all men deceive themselves as well as their associates with conventional phrases, with expressions which, though quite devoid of insincerity, yet are far from genuine.

Nevertheless, it is from this dubious sort of evidence that we must seek to gather conclusions. As regards the instinct of contrivance, it is chiefly available in the biographies of inventors, in their own utterances, and in the impressions made by them on associates. Of this sort of evidence there is not a little. Unfortunately it is almost invariably second-hand. Memoirs, reminis-

cences, autobiographies are of the rarest. We have to rely on occasional flashes of self-revelation and on such general trend as perhaps can be observed in the second-hand material.[1]

One thing stands out conspicuously: the race of contrivers and inventors does obey an inborn and irresistible impulse. Schemes and experiments begin in childhood, and persist so long as life and strength hold. It matters not whether a fortune is made or pecuniary distress is chronic: there is increasing interest in new dodges, unceasing trial of new devices. So far the socialists are in

[1] The biographies of inventors are always concerned more with the externals of achievement than with the psychological make-up of their subjects. Hence they give much less light than is to be desired on the topics here under consideration. Yet something is to be gleaned from them; and no doubt much more would be yielded to a systematic survey of all the available memoirs, letters, biographies. I have found suggestive passages in the following books: *A Memoir of Edmund Cartwright* (1843); Muirhead, *Life of Watt* (1859); Dickinson, *Life of Fulton* (1913); Church, *Life of Ericsson* (1890); Prime, *Life of Morse* (1875), and Morse, *Letters and Journals of S. F. B. Morse* (1914); Dyer and Martin, *Edison: His Life and Inventions* (1910).

the right. Cartwright was in difficulties almost all his life; yet he never relaxed his interest in any and every sort of mechanical device. Edison made fortunes and lost them and made them again; but throughout he remained the same amazing and persistent contriver. And it would seem that no satisfaction from pecuniary success or worldly recognition equals the absorbed interest of trial, experiment, novel problems, happy solutions.

Not only is the instinct imperious; it is generic. We are misled by the fact that the names of most inventors are associated with one device, at most two: Watt with the steam engine, Cartwright with the power loom and the combing machine, Fulton with the steamboat, Howe with the sewing machine, Ericsson with the screw propeller and the monitor, Bell with the telephone, Edison with the incandescent light and the moving picture. Their biographies show that they were constantly experimenting on all sorts of schemes, promising and unpromising;

sometimes with money-making intent, sometimes in the spirit of scientific research, and sometimes merely in sport. Werner Siemens, one of the few who combined a strictly scientific temper with the genius for contrivance, began with the telegraph, proceeded to the metallurgy of iron and copper, closed with devotion to the field of pure science. Cartwright turned his daring and original mind to a host of contrivances. Fulton gave years to canals and to submarine boats before he turned to steamboats, and was ready with a plan for an armored man-o'-war when the commercial steamboat had been only half perfected. Ericsson was intent on a dozen devices, among which the caloric (hot-air) engine was conspicuous.

In other words, the instinct in man, unlike the corresponding instinct in animals, is not directed to one specific end. The beaver's instinct turns to damming the stream and constructing the lodge, and to these only; that of the bee to the hive, — almost a miracle, but standing quite by itself; that

of the bird to building the nest. But in man, under the influence of forces that we but dimly perceive, the inherited propensity roams afield. It is directed to all sorts of contrivances, no longer restricted to those immediately serviceable. And with this shedding of the clearly marked teleological character, there seems to develop an erratic streak. The instinct becomes wandering; it attaches itself to all sorts of devices and intricacies; its manifestations sometimes seem absurd. A curious book has been recently published on "cats' cradles," — those entertaining entanglements of threads that delighted us in childhood.[1] Civilized and barbarian races alike have contributed to the recorded array of varied and intricate figures, and the anthropologists have tried to discern in them some significant general development. It would seem that they are simply manifestations of the instinct of contrivance, followed quite without regard to an ulterior aim.

[1] *String Figures; a Study of Cats' Cradles.* By Caroline F. Jayne (1906).

The biographies of inventors supply abundant illustrations on the wide range and the curious forms of the instinct of contrivance. Of Cartwright, for example, we read:

"Cartwright never ceased inventing. When he settled down in London he set himself to the systematic pursuit of scientific discovery. . . . His little house in Marylebone Fields became a very treasure-house of arts and sciences; nothing was too little and nothing too great to exercise his ingenuity upon. He made bread in his own kitchen by machinery; published a scheme for rendering houses fire-proof; invented bricks on a geometrical system; made a machine for biscuit-baking; helped Fulton with his first steamship models; brought chemistry to bear upon the science of agriculture; introduced a new three-furrow plough; got the Agricultural Board's gold medal for experiments in manure, and their silver medal for an essay on the culture of potatoes; and obtained patents for calendering linens, making ropes, and cutting velvet pile. Indeed

it may be said of him that he went to the grave inventing. Being sent to Dover, in his eightieth year, for warm sea-bathing, he invented a method by which the bathman saved the labor of two men in pumping up the water. A few weeks later he designed the model of a new Centaur carriage, as he styled it; and a day or two previous to his death he wrote an elaborate argument to a friend on a plan he had discovered of working the steam-engine by gunpowder instead of steam."[1] It might be added that in youth he published poems, and in old age sent to the Royal Society a paper propounding (to cite his own account) "a new theory of the planetary system, as far as it relates to the power by which the planets are impelled around the sun."[2]

[1] I quote from Burnley, *History of Wool and Wool-combing*, p. 132.

[2] *Memoir of Cartwright*, pp. 17, 284. The following is from one of his last letters:

"I have luckily discovered a method of working an engine by explosion, in a way to be perfectly secure from danger, and completely effectual. You will be surprised when I tell

Watt was interested in a quantity of inventions and devices. Among them may be mentioned a new kind of clock which, to quote Watt's own language, "is to be ranked in mechanics as riddles and rebuses are ranked in poetry"; a micrometer; a drawing machine, which he himself termed "a gimcrack"; a copying machine for letters, prototype of the copying devices so long in use; a machine for drying linen and muslin by steam; one for getting illuminating gas from coal ("he will ever be known as the true inventor of the beautiful system of lighting by gas"); a new kind of oil lamp long manufactured at the Soho works; and a smoke-consuming device, on the down-draft principle.[1] Last, but not least significant,

you it is by gunpowder. . . . This, my dear sir, I have (in theory) accomplished; and by a contrivance, equally certain as it is simple, — more simple, indeed, than the lock of a common gun. . . . Should my ideas on this business be, as I have every reason to think, correct, the discovery will be one of the greatest importance." *Ibid.*, p. 289.

[1] Muirhead, *Life of Watt*, pp. 182, 183, 187, 193, 222, 252, 324, 350.

was a machine for copying (reproducing) sculpture, which he himself termed a "hobby-horse," and which seems to have amused and indeed absorbed him for the last twenty years of his life (from 1791 to 1819). Long after he was prosperous and honored, the old man spent much time in his garret, hot or cold, over this machine; he was sure it would succeed. He spoke of it as the "diminishing machine" (*i.e.* reproducing on a smaller scale).[1] The garret in which he worked at it was long preserved, for sentiment, by his descendants, with its tools and models. I suspect that if one took a look into this hallowed chamber, one would see in it mechanical marvels — but artistic atrocities.

Ericsson was no less prolific than Watt, and his career contains similar illustrations of the oddities of inventors. "When he took

[1] Muirhead, *Life of Watt*, p. 356 et seq. As is well known, machines on Watt's principle have been highly perfected in modern times, and the resulting reproductions are by no means artistically bad.

possession of his new quarters [the house on Beach Street, which he bought in 1864] he found his company disputed by a numerous horde of rats, who considered themselves tenants at will, and stubbornly refused to yield possession. . . . Regarding the situation as a problem to be solved by mechanical means, with his own hands he drew the plans for a vast and mighty trap. To the leading idea [of a water-tank beneath a trap-door] he laid no claim, but the details were wholly new, and upon an unheard-of scale. Tracings were made by an assistant draughtsman, and went the rounds of the shop; the pattern-maker, the brass-founder, the finisher, the carpenter, the tinsmith, each had a share in this novel work. At last it was completed and erected; it filled up half the basement, and was baited with half a cheese. . . . But he had underestimated the cunning of the rodents; as a place for keeping cheese in safety, the ponderous engine answered admirably, but it did not frighten away the obnoxious animals; and he was forced to admit that

'these little beasts have brains altogether too big for their heads.'" [1]

Turning to one of the inventors of the second rank, S. F. B. Morse, whose name is associated with the telegraph, — not to be compared with men like Cartwright, Watt, or Edison for fertility of contrivance, yet deservedly high in fame, — we find the same toying with devices that have no teleological aspect. Read what Morse, in his early days, wrote to a young woman of his acquaintance: "I send by Mr. Ambrose with the book the lock which I once mentioned to you; it may

[1] Church, *Life of Ericsson*, Vol. II, p. 306. Ericsson was perhaps the most eccentric of all this eccentric tribe. No less than "240 pins were required to make faultlessly smooth the sheet covering his mattress." Yet "a rough wooden box, or a dictionary, served him for a pillow when he turned aside from his work to stretch himself out at full length for a nap on a table standing opposite his desk. Until this bright idea of lengthening it occurred to him one day, he slept most uncomfortably with his legs dangling over the edge of the table." "Summer and winter, he wore vests and stocks of buff Marseilles or piqué; this material having once attracted his fancy, he had bought one hundred and fifty yards of it and used it for these garments during the remainder of his life." — *Ibid.*, Vol. II, pp. 312, 314, 317.

amuse you. I think it will puzzle the ingenuity of Mr. J. to find it out. I will tell you how it opens by the annexed figure: the word that opens it must be spelt in a line between the two marks on the end-pieces, and when spelt the right-hand end pulls out about a quarter of an inch, and the ketch can be lifted up. You must not tell Mr. J. the key-word; it is the name of some one you know. I must leave it for your ingenuity to find out whose it is." [1]

These discursive and erratic manifestations of the instinct of contrivance are paralleled by similar vagaries in the working of other human instincts. They are in marked contrast with the simple and almost monotonous manifestations which we observe in the lower animals.[2] I have already referred to the simplicity which we find among animals in the working of the instinct of contrivance

[1] Prime, *Life of Morse*, p. 105. — It may be noted that Morse, like Watt, gave attention to a machine for reproducing sculpture. *Ibid.*, p. 127.

[2] As was long ago remarked by Darwin, *Descent of Man*, Vol. II, p. 374 seq.

itself: the beaver with his dam, the bird with its nest, and so on. The same sort of contrast is to be seen as regards other instincts. That of play takes in man all sorts of unexpected forms. Puppies and dogs snarl at each other in mimic combat, and chase one another as if eagerly on the hunt; no doubt birds pursue their comrades in pure joy of flight. But what a restricted range in comparison with the amazing variety of man's sport and play! Athletic contests alone take an infinite variety of forms. The instinct of collection, which in animals is confined chiefly to the acquisition of stores of food, is perhaps the most extraordinary of all. It ranges from postage stamps to old masters, from bric-a-brac to scientific specimens, from violins to incunabula.[1] This multifariousness in the scope of the instincts in man is doubtless due

[1] See the curious illustrations in James, *Principles of Psychology*, Vol. II, p. 424. Of the significance of the instinct of collection for economic inquiries, something is said below, p. 80. — It would seem that the instinct of the chase, atavistic though it is, retains in man most closely the specific scope which it has in animals and doubtless had in primeval man.

not only to his wider intelligence and modifiability, but to the fact that their specific direction is of less importance for his welfare. Our instincts are largely survivals, no longer essential for our place in the organic world. The objects to which they are directed are not commonly of immediate importance for our well-being. Hence they easily take on what we consider an "irrational" character. They are apt to be without purpose, in the sense that they serve no further need than that of giving vent to the sheer impulse. So it is with the whimsical manifestations of the instinct of contrivance.

Now in this seething mass of schemes and experiments a process of selection goes on. The failures or half successes of inventors are usually overlooked; it is the crowning successes which alone are conspicuous. In the process of selection two closely connected factors seem to count: the support and guidance of the cool and calculating business man, and the cool calculations of the inventor himself.

The part played by the business man — the capitalist, or enterpriser, or manager, whatever he be called — has been often discussed. Every invention, we are told, needs to be nursed. Some one must always advance funds. What is no less important, some one must usually supply judgment. A judicious acquaintance of mine, much experienced in the world of affairs, has remarked to me that an inventor is always a ticklish associate, — unable to cease experimenting, ever in chase of something new, subject to ill-judged enthusiasms, not content to sit down and develop systematically what is at the stage or near the stage of working success. Certain it is that your inventor is rarely a good manager. Cartwright, as we have seen, a most extraordinary contriver, was ever at something new, never bringing anything to fruition. James Watt needed his partner Boulton; alone, Watt could never have built up the famous Soho works or brought the steam engine to full effectiveness. He admitted in his correspondence

that he was immensely interested in what he himself described as gimcracks and hobbies. The business of perfecting and installing the steam engine was irksome to him, and the attentive reader of his biography cannot but see that he was held to it only by his partnership with Boulton and the pecuniary gain which came thereby.

Ericsson was in financial difficulties throughout the earlier part of his career; the firm with which he began as partner in London became bankrupt. Some of the most ambitious projects of his later and more prosperous years proved complete financial failures. Such was the case with the oft-described "caloric ship" which bore his name, and in which a round half-million was sunk. The venture of the paddle steamer *Iron Witch*, quite novel in type, was no less disastrous.[1] On the other hand, some by-products of his fertile brain proved to be unexpectedly useful and profitable. He experimented for a

[1] See Church, *Life of Ericsson*, Vol. I, pp. 160, 189, for these episodes.

long time and at great expense on an engine for utilizing the sun's heat, which proved quite impracticable; but in the course of the experiments contrived the small hot-air engine, from which he and his business partners eventually drew profits offsetting all the heavy expenses of the abortive solar engine.[1] Other inventions and designs of his were also turned to good account by business associates, and with their aid Ericsson prospered. Yet his ways were harum-scarum to the end. His check books served as diaries

[1] "The small engine here referred to proved a great success. Its inventor was averse to patenting it, as it formed part of his solar apparatus; and with reference to this he had said in a published letter dated New York, September 23, 1870, 'I shall not apply for my patent rights, and it is my intention to devote the balance of my professional life almost exclusively to its completion. Hence my anxiety to guard against legal obstructions being interposed before perfection of detail shall have been measurably attained.' In deference to the request of his business associates, the inventor reluctantly patented its application to the use of hot air, and without solicitation gave the patent right to his business associates of the firm of Delamater & Co. Under their energetic management it was speedily brought into extensive use."—*Ibid.*, Vol. II, p. 273.

much more than for financial record; and at that, they were the only records he kept. "It was difficult," says his biographer, "to follow his financial transactions, as the memoranda on his check books were his only record of money received or coming due to him. Yet his receipts on one day counted a single item of half a million dollars paid in ten $50,000 Treasury certificates." [1]

Edison — to turn to a more modern case — was advised at an early stage in his career to get a partner; advice which he seems to have regarded with suspicion, as likely to fasten on him a parasite. Yet one cannot read the tale of his business stumblings without concluding that he would have accomplished more, certainly prospered more, with a capable managing partner such as Watt had in Boulton. Of the luckless

[1] *Ibid.*, Vol. I, p. 157; Vol. II, p. 307. It may be noted also that "he was one of the first investors in the Atlantic telegraph, but he always wondered at himself for this venture, as he was ready at that time to furnish a conclusive demonstration of the impossibility of making the cable a success." —Vol. II, p. 309.

New Jersey ore venture I have already spoken. As a youth of twenty-one, he received his first check, for no less a sum than $40,000, for a telegraphic invention; and the paying teller of the bank was able to play a practical joke on him, — although Edison had already been in business ventures for some years, — by handing him bundles of small bills "until there certainly seemed to be one cubic foot." Several years later, being offered $100,000 for an invention, he voluntarily preferred to take the sum in successive payments of $6000 a year spread over seventeen years, — quite oblivious of the item of interest. And still later he accepted an offer by cable of "30,000" for another contrivance, and was surprised, when his draft came, that it was for £30,000, — he had expected dollars.[1]

The truth is, — and it bears on many phases of the present discussion, — that no one individual is likely to possess to a high degree different kinds of capacity. The mechanical genius is not likely to be also a

[1] Dyer and Martin, *Life of Edison*, pp. 133, 180, 185.

shrewd judge, a capable organizer and manager. Exceptions there are, and some of them notable. The elder Stephenson was a successful inventor and also a successful business man.[1] Werner Siemens belongs in a rank even higher, — a leader in science as well as in business and in mechanical contrivance. Among Americans, Bigelow, who devised power looms for carpet weaving, and Batchelder, who did much for the cotton manufacture in its earlier stages, were industrial leaders of high ability.[2] Yet excep-

[1] It will be remembered that Stephenson and Ericsson competed at the famous Rainhill locomotive competition of 1829. Ericsson's biographer remarks: "In the field of locomotive construction Ericsson was distanced by the more steady-going, if less brilliant, Stephenson, whose labors, concentrated upon the work of improving and adapting, were not disturbed by the constant buzzing of inventive conceits." — Church, *Life*, p. 67.

[2] See Werner Siemens, *Lebenserinnerungen* (1895). — Samuel Batchelder and E. B. Bigelow are interesting figures in the history of the American textile industries. Batchelder wrote an excellent little book, *The Introduction and Progress of the Cotton Manufacture in the United States* (1863). Bigelow was the author of an effective statement of the protectionist argument, *The Tariff Question* (1865).

tions these remain. Commonly the inventor is a poor manager. It is when allied with the business man that he is most likely to develop and perfect the usable devices. Now your business man is all for profit, — just how and why, we shall consider presently. In his case the pecuniary motive is, proximately at least, the dominant one; and it acts to direct, temper, make serviceable, the inventor's more impulsive nature.[1]

[1] A recent writer on textile industries is led by his experience to speak thus of inventors: "The average man of creative genius is not as methodical as he should be. The reasons for this are that his work is fascinating beyond expression. Ideas flash through his brain with such rapid succession that his mind is restless and captivated. He lives in the whirlwinds of expectancy. To-day he lives with ideas that coin wealth so fast that his expected riches may be too bulky. To-morrow he discovers obstacles that are insurmountable and his proposed wealth vanishes. With the mind so actively engaged in drawing out order from chaos, developing ideas into material form, and the form being changed continually before assuming the normal stage, it is exceedingly difficult for the inventor to have complete records and have hard set rules and methods with which to govern his movements." — Martin, *The Management of Cotton Mills*, p. 218.

The alliance of the inventor with the business man in command of capital is probably more important now than in older days, because of the increasing complexity and cost of modern devices. Some of the most striking improvements of our time have come about only by the systematic engagement and maintenance of inventors; there are those who would call it also the exploitation of inventors. Deliberate and systematic direction of inventors appears in the case of the automatic loom, on which the energies of a whole chain of contrivers were concentrated for a decade or more, under the direction and at the expense of the enterprising Draper firm. Such was the history of the linotype, a most intricate and expensive machine, developed through the support of D. O. Mills.[1] Similar is the more recent history of the Diesel

[1] From conversation and correspondence with those who had to do with this invention I gather that its history was like that of others. Mergenthaler, whose name is attached to the linotype, was an erratic character. The financial resources necessary for full development were not secured until the mechanism had been in essentials perfected.

motor, whose possibilities for the future of power-generating may prove immense. In all such cases, there must be not only the instinct of contrivance, but its systematic direction, its calculated aim.

Further: the inventor himself may be spurred directly and immediately by the prospect of pecuniary gain. The direction of his energies may be determined by this prospect. I turn again to an episode in Edison's career. It is related that his first invention was of a device for registering promptly and automatically the votes of a legislative body. Each member had only to press a button, and in a jiffy the count pro or con would be recorded. The proud young inventor gave a successful demonstration before a committee of the national House; but an experienced legislator poured cold water on his enthusiasm with the remark: "Young man, if there is any invention on earth that we don't want down here, it is this. One of the greatest weapons in the hands of a minority to prevent bad legis-

lation is filibustering on votes, and this instrument would prevent it." And, as the biographer tells us, — he was Edison's close associate and derived his information from the inventor himself, — "Edison determined from that time forth to devote his inventive faculties only to things for which there was a real, genuine demand, something that subserved the actual necessities of humanity." [1] And it must be added that throughout his subsequent career, clear as it is that the man was possessed with an instinct for contrivance, he also never was indifferent to money. All his inventions were patented; no pretense is made in his biography that pecuniary return was immaterial. True, the pecuniary management seems often to have been bad. Had Edison been a great business manager as well as a great inventor, his fortune might have overtopped even the most amazing known to us. But it seems to have been

[1] *Life of Edison*, p. 103. It deserves to be remarked that from that day to this all attempts to introduce devices for rapid counting in Congress have met with failure.

lack of pecuniary ability, not the absence of pecuniary motive, which caused him to rank only among the common ruck of millionaires.

The biographies of other inventors abound in similar evidence. James Watt had, as we have seen, all kinds of projects, good and bad; but he was much concerned about securing the patent for the improved steam engine, even though he found it irksome to give it undivided attention. It was the partnership with Boulton that enabled him to reap the expected and desired fortune. Fulton also was a most versatile person, and apparently no more sagacious than Edison or Watt in his choice of contrivances. For years he gave much time and labor to sundry hopelessly impractical schemes. One was for small canals with absurd hoisting arrangements as substitutes for locks. Another was the more famous submarine boat, equally impossible in the then stage of the arts. It was a lucky turn of fortune that enabled him to sell for a good round sum to the frightened British Admiralty his plans for submarines

and torpedoes. He turned to the steamboat next, and with the support of the enterprising and calculating Livingston succeeded in bringing the *Clermont* into working order. "It cannot be denied," says his latest biographer, "that he ever neglected an opportunity of profiting pecuniarily by his inventions." [1] I will not multiply examples. A writer on the comparatively prosaic subject of textile machinery and its improvement remarks: "The deep interest and fascination with which the faithful inventor is overtaken as he proceeds with his developments repay to a considerable extent. But the hope of a well-earned fortune is the greatest compensation sought." [2]

As we descend in the scale of inventors and contrivers, the instinct, so powerful among those of the first rank, becomes less dominant, and other traits and impulses become of comparatively greater influence. It is overmastering, and perhaps for that

[1] Dickinson, *Life of Fulton*, p. 267.

[2] Martin, *The Management of Cotton Mills*, p. 212.

very reason aberrant, only in the inventors who have genius, — men like Watt, Cartwright, Ericsson, Edison. Though still strong in those of less distinction, such as the common run of textile contrivers just referred to, it loses its imperious character and becomes intermingled more closely with the other impulses of the species. In the men of secondary rank it is more sober and more plodding, directed to a smaller number and less variety of contrivances. For that very reason it is apparently less in need of control and direction by the calculating business man. But if it is less erratic in them, it is also less spontaneous, and depends for its persistence and fruition more on the ulterior motives which we associate with money-making. I adduce once more the case of Morse, the inventor of the telegraph and of the Morse alphabet; an ingenious and successful contriver, but not, like Cartwright and Edison, fairly bubbling over with projects. He may be said to have taken to invention of set purpose. Until middle life

he was a painter of some promise. He gave up the artist's profession because he found it impossible to secure orders enough to support his family. The crushing disappointment came from his failure to get an order for one of the supposedly monumental paintings in the Capitol at Washington. That failure proved in the end advantageous for his fame and fortune. He turned deliberately to the telegraph, for which a scheme had been in his mind for years, and devoted the rest of his life to perfecting it, introducing it, enlisting pecuniary and legislative support. The reader will find in his recently published biography,[1] as he will in the records of other inventors, self-deceiving utterances and puzzling problems of character. Morse was a devout believer, and thought himself an instrument working out the designs of God. But after the fashion of other believers, he looked well to his patent rights and had a constant eye to the acquisition of a for-

[1] *The Letters and Journals of S. F. B. Morse*, edited by E. S. Morse (1914).

tune. It is tolerably clear that the instinct of contrivance would not have achieved the telegraph through mere spontaneity of operation. And so it doubtless is with the great mass of schemers and inventors. The instinct is stronger in them than in the average man, but not so strong as in the few of extraordinary genius, and not so strong as to lead to sustained endeavor without the stimulus of ulterior gain.

The case, in truth, is almost invariably one of mixed motives. That very Fulton who bargained so shrewdly in selling his inventions, good and bad, was unquestionably sincere, though doubtless exuberant of emphasis, when he wrote: "Although the prospect of personal emolument has been some inducement to me, yet I feel infinitely more pleasure in reflecting on the immense advantages that my country will draw from the invention" (of the steamboat). Edison had the same mixed feelings; further complicated by an influence which has become of growing strength in modern times, — professional pride and professional

recognition. It is rare that a man feels a single impulse so strongly that the others are pushed aside and rendered inoperative; and it is rare also that a man in whom one trait is highly developed manifests a similar extreme with any other. Among the instincts which we shall presently have to consider is one quite neglected by the older economists — that of sympathy, devotion, public spirit. Like the rest, it appears with overpowering and far-ranging force in some individuals; in others it seems to be confined strictly to the narrow range of the domestic affections. Just as very few men are both capable business managers and ingenious inventors, so few are at the same time ingenious inventors and exalted altruists. Some twenty years ago a university professor devised a method for measuring with accuracy the content of butter-fat in milk. The device, if patented, would doubtless have yielded him a very handsome income. The inventor gave it freely to the public, saying modestly that to do so was but part of his duty as a servant

of the people; and it has come into use the world over. We call his conduct noble; but our very recognition of its nobility is an admission of its rarity. Those who have the contriving bent show, like the rest of us, all degrees of public spirit. The great majority of inventors, like the great majority of common humanity, are neither grossly selfish nor highly altruistic. They follow ordinarily their own interest, yet they get satisfaction also from furthering the interests of others, even from furthering the vaguely felt interests of the wide circle of mankind. It is too obvious for denial that the closer interests of self and of those felt to be parts of ourselves usually surpass in directness and force the wider appeal.

To sum up: the *direction* in which the contriver turns his bent is immensely affected by the prospect of gain for himself. Now, gain and profit come from supplying people with what they want; and the influence of individual interest on the direction of inventors' activity turns it toward the

promotion of the general welfare. We have moved so far from the optimism expressed in Adam Smith's famous passages about the invisible hand[1] as to forget that men do commonly profit most by supplying what other men most want. The defenders of patent legislation often descant on the public's benefit from inventions as if there were a special moral desert on the part of the projectors and patentees. They put their case badly. What deserves emphasis is the influence of calculated profit in directing the inventor's activity, spontaneous though it be, into channels of general usefulness.

The recognition of the instinct of contrivance thus does not lead to conclusions as revolutionary as seem on first consideration

[1] To quote again the oft-quoted passage: The individual "generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. . . . By directing his industry in such manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention." — *Wealth of Nations*, Book IV, Ch. II (Vol. I, p. 421 of Cannan's edition).

to be indicated. There is, beyond doubt, contrivance for the mere sake of contrivance. But the patent system is nevertheless not deprived of justification, nor is the whole system of competitive enterprise of which it forms a part. The calculation of ulterior gain still plays a great part, usually a dominant part, not only in securing the guidance and coöperation of the business manager, but in stimulating and directing the less deliberate and systematic activity of the inventor himself.

This is the case, at all events, under the existing social organization, in which every man, whatever his bent, is constantly under the sway of the narrower self-regarding motives. The whole structure of private property is built on the foundation of a striving for one's own. Inventors, poets, painters, business men, — all are alike in the folds of a system which compels them to exercise their powers for their own advantage. The fact that the instinct of contrivance is at present turned to advantageous exercise by the motives

of material gain does not prove that such motives are indispensable to the same sort of usefulness under any and every economic system. Looked at in this way, the particular problem of the preceding discussion is but part of the wider problem of human motivation, which is at the root of the controversy between collectivism and individualism. And in the larger problem, as in the more restricted one, the doings of the tribe of inventors must be considered in connection with those of their patrons and partners, the capitalist business men. The most that can be laid down, as the outcome of the present discussion, is that inventors on the whole need the spur of profit *as much as* the others whose creative and guiding activity is indispensable for human progress. But how much do they need it, one and all? The most conspicuous figure among them, and in the field of economics the most important, is the business leader. Concerning this personage, psychological analysis is needed quite as much as concerning the inventor; and some such analysis

is undertaken in the later parts of the present inquiry. So far as concerns inventors and contrivers, our conclusion is simply that, the social and economic structure being what it is now, and men being now under its influence, they are not likely to exert their powers for the general good unless guided, stimulated, and rewarded in much the same way as leaders in other forms of creative activity.

II

The Instinct of Contrivance, Further Considered

Our attention so far has been directed to the conspicuous manifestations of the contriving instinct, to its nature and influence among the gifted inventors. But, like the other instincts, it is to be discerned in all men, and actuates all in some degree. In considering its wider range, we are brought face to face with aspects of the subject which lie even further from the range of topics usually considered by the economists.

The moral teacher tells us we should do our daily work with joy. The economist commonly tells us that it is an effort undergone because compensated by wages or profits, a "disutility," a sacrifice. Underlying almost all economic theory is the assumption that work is an irksome thing, done for pay and in

proportion to pay. And however the preacher may exhort us to take satisfaction in doing useful work, the general attitude of mankind confirms that of the economist: work is work, and quite different from play. It is obvious that the sum of human happiness would be immensely greater if all could feel as the preacher would wish, if all commonly took direct satisfaction in the activities of earning a living.

I would not venture on any general theorizing on the problem of happiness. For the present discussion it suffices to point to the patent fact that the satisfaction of an instinct conduces *pro tanto* to happiness, the balking of it to unhappiness. Not indeed for all instincts in the same degree, or with the same ultimate consequences. Some need to be held in check, alike for the individual's well-being and for that of his fellows; some may be given full rein. Among those to which it seems possible to give wide scope, without danger of satiation or remorse, is this one of contrivance. And yet the modern organization

of industry tends to smother it in a great and probably growing proportion of men, — a most ominous aspect of our social and economic system.

I have mentioned that among the marks of a true instinct is universality of occurrence. That of contrivance is verified by the test. Extraordinary as it is in some individuals, it is present in all. In the average man it perhaps should be called an instinct of construction rather than one of contrivance. Every one of us is conscious of a satisfaction in doing his work handily and well, in seeing the product grow under his own hands.

Hence we find this instinct actuating the business man as well as the inventor and mechanic. The complexity of the impulses and motives which underlie business activity will form the special topic of the following chapters; here I anticipate for a moment what might as appropriately be said there, concerning the influence of the instinct of contrivance on the active man of affairs. This sort of person *likes* to see his enterprise well

conducted; and the enjoyment is quite apart from the money-making outcome. As with other instincts, that of contrivance is felt in varying force by different individuals. There are not many with whom it would be as strong as with a manufacturer who once assured me (in perfect good faith, I am convinced) that the chief satisfaction which he got from his establishment was the feeling that it was in the best of order and at the height of efficiency, — shipshape from top to bottom. But the immense majority would confess to some feeling of intrinsic pleasure in having a well-equipped plant, a first-rate organization. I mention organization as well as plant, because the modern business man is commonly concerned with the former not less than the latter. The instinct for contrivance is then directed to the demarcation and apportionment of functions, the proper division of administrative work, the mechanism of routing and filing and cost-accounting. And it is probable that here, as with the instinct in its more obvious phase, — that of mechanical

contrivance, — there are manifestations which from the mere pecuniary point of view are aberrant or irrational. One hears of pedantically perfected organization, of a sort of scientific management run wild, for which the sponsor would find it difficult to give a good "business" justification.[1]

A characteristic illustration of the influence of the contriving instinct is found in the passion for building often shown by the well-established and successful business man. I have come across, in my own acquaintance, sundry cases of what may be fairly called a building mania. The man who has accumulated a fortune is apt to spend freely in con-

[1] Sombart (*Der Bourgeois*, p. 425) refers to the "childish pleasure" which the business man takes in technical perfection. I cannot but believe that this sort of characterization is as superficial as that which (*ibid.*, p. 222) describes the love of speed as "childish." Such manifestations are childish in this sense only, — that our instincts appear with greater simplicity in children than in adults and are more easily recognizable in them. The instinct of contrivance is as normal in the man as in the boy; and the "childish" love of speed seems to be but a manifestation of the ubiquitous and irrepressible instinct of the chase. Cp. what is said below, p. 90.

structing an establishment, — very likely a country house, with dependent structures and appurtenances, park-like grounds, and the like. When the whole is completed, he makes little use of it or none; perhaps hands it over to a friend or relative for occupancy, or dutifully makes an occasional pretense of enjoying it himself. Given money enough, he is likely to turn before long to another operation of the same kind. If he already has a house by the sea, he builds one among the hills or adds an elaborate "camp" in distant wilds. In his business operations the instinct of contrivance is held in some restraint, being guided by rationality, or by an accurate calculation which has an appearance of rationality, for the purposes of money-making. But when the money is made, the instinct shows more clearly its spontaneous character. Who has not heard of mansions or towers which are dubbed "Smith's Folly"? Smith, if he were cross-questioned about his doings and motives, and were led to reflect on them, would probably confess that it was "folly."

But, like Edison, he had his "fun" out of it! Not the completed establishment and its uses gave him pleasure, but the contrivance and the construction.

Much more important, however, is the influence of the instinct of contrivance on the employees. It is more important as concerns the problem of happiness, simply because of the immense numerical preponderance of the employees over employers. There is a clear difference between the two classes as regards the scope given to this bent in their work. The capitalistic organization of industry, large-scale production, hired labor, and the wages system, — these may serve to add to the employer's intrinsic satisfaction from his daily work, or at least to entail no loss of satisfaction; but they seem to lessen seriously the possibilities of a life of spontaneous activity and of sustained happiness for the manual workmen who form the great body of employees.

Just how far the development of quasi-automatic machinery runs counter to this

factor in well-being is not easy to say. Probably the charge often urged, that it takes *all* the interest and savor out of the day's work, is exaggerated; or at least there is exaggeration in the assertion that the industrial system is in this regard radically worse than it was before the era of the machine. The handicraftsman's labor, like that of the tender of a machine, often involves repetition and monotony. Moreover, a vast amount of dreary heavy labor has been taken over by the machinery. The modern sawmill is better than the old saw pit; the planing mill better than the old jack plane. There is truth also in the observation that monotony is by no means equally distasteful to all. Men vary in this regard, as in every other; and the simple repetition of identical movements is not necessarily a cause of weariness and abhorrence to those of inert mind and tranquil disposition.[1]

[1] See what is said in Münsterberg, *Psychology and Industrial Efficiency*, pp. 190, 195. Cp. Marshall, *Principles of Economics*, Book IV, Ch. IX, p. 6.

Yet it remains true that there is a difference of degree between the tool and the machine; a lessened scope for individual initiative and individual impress, and so a lessened opportunity for the satisfaction of an instinct like that of contrivance. True, the expert mechanics needed by modern industry — a considerable part of the labor force, even though not a large proportion — may still be in the way of experiencing some such satisfaction. Among the rank and file of factory operatives, also, the possibility is not completely excluded; machines, however perfect, depend in some degree on the operative's care and skill. Yet in general the minute partition of labor, the extreme differentiation of machinery, the constant effort to achieve automatic start and check and action, the tendency to reduce the worker to a mere feeder and watcher, — all these mean a loss in interest, in possible variety, in the exercise of skill and contrivance. The skilled mechanics themselves, whose work tends to be turned to the construction and repair and over-

sight of machinery, are often tenders and users of machine tools which, though extraordinarily ingenious and effective, are quasi-automatic. Surveying the situation as a whole, the decline of the handicraft, though it does not necessarily mean a less demand on the intelligence and skill of the workmen, means less opportunity for individual adaptation and workmanship. Against the clear gain in quantitative output from machine industry, so much emphasized in economic literature, must be set some loss, even though not an unqualified loss, as regards the scope and the attractiveness of the work itself.

But it is in other directions that I am disposed to think that there is the most serious evil. The evil arises not only from these inevitable concomitants of large-scale production and highly elaborated machinery, but from the relations between employers and workmen which have developed from them. It is rooted in the wages system and in the wages struggles which arise from that system.

The ordinary wages bargain gives the employer command over the workman's time and energy for a stated period, at a fixed rate of pay. Where the number of employees is small, this does not militate against a feeling of mutual interest and good will. No less important, where the number is small, and the division of labor not minute, is the greater possibility of variety and adaptability in the daily tasks. The development of large-scale industry tends to eliminate both of these propitious factors. The relations between employer and employee inevitably become more impersonal and mechanical. The workman is no longer Bill Jones; he becomes a number on the payroll. From it all emerges, or at least there is accentuated, an attitude toward work quite different from that of the independent craftsman or of the companionable workman of the small-scale employer. It is pay that is chiefly looked to, with hardly a thought of interest in the product; employment and the maintenance of the job, not achievement and the interest of the job.

All this is too sadly familiar; but some of its consequences are perhaps better understood in the light of the psychology of instinct. The best illustration of what I mean appears in labor-union development and labor-union policy. The union is inevitable; in the bargainings between employers and hired workmen it conduces alike to the material gain of the workmen and to their self-respect. Of the various good and bad sides of the movement we hear enough; among the well-to-do, perhaps more than enough about the bad sides. But the attitude toward work bred by union policy and union environment brings ill consequences little considered either by the unionists themselves or by their critics. "Making work" and limitation of output are familiar features in current labor policy. They have been subject to sufficiently scathing criticism; nor is it possible to defend them on any large grounds of social policy. I am convinced that they are due, not so much to fallacies in reasoning about their effect on the demand for labor (though these play a consid-

erable part) as to the ever haunting dread of unemployment and the stern need of sharp bargaining with the ordinary employer. Whatever their origin, and whatever may be said in their justification as weapons in the fight for wages, they tend to smother the instinct of construction and the inherent satisfaction from work. Can anything be imagined that will render the day's labor more repugnant than the requirement to hold one's self in, so as to refrain from doing one's best? Anything to make the closing gong more welcome than the obligation to limit achievement below capacity? So it is with the opposition, overt or concealed, to labor-saving devices; this too runs counter to the inborn bent for trying to do the thing handily.

Something of the same sort is true of piecework, even where this method of payment is not nullified by tacit agreement among the men to keep within a stated output. From the employer's point of view, the bane of piecework is that the workman has no inducement to improve quality and must be

controlled by standardization and inspection. As regards the workman's own happiness, it means indifference to quality, an inducement to keep barely up to the stated standard. True, mere quantity satisfies to some degree the instinct of contrivance, or at all events that of collection and accumulation. There is a satisfaction in seeing the growth of your own pile, the swelling of the count to your own credit. But even this is too often prevented by the shortsighted employer, who watches that same accumulation with envious eyes and tries to cut down the piecework rate because "these fellows are making too much money"; with the inevitable retaliation on the workmen's part through a policy of holding in, and a consequent smothering of the spirit of activity.

Again: the instinct of contrivance in the business man himself, and the ready vent which is given it by the nature of his own work, go far to explain his inability to understand, his unwillingness to tolerate, the restrictive policy which so often runs counter to it among

the employees. The position of the employer obviously is just the opposite from that of the men. In his case all the surrounding circumstances tend to foster and strengthen the contriving impulse, whereas among the men the accepted methods of bargaining tend to push it aside and smother it. Not only the employer's calculations of gain, which are doubtless uppermost in his thoughts, but the inborn bent of which he is only half-conscious, impel him to bring his operations to the utmost pitch of efficiency. His own satisfaction from proper contriving makes him feel irritation, even wrath, when his men limit their tasks, hold aloof from labor-saving appliances, prevent the well-designed organization and plant from turning out the maximum. This cause of friction is the more likely to issue in contention because neither participant understands the other's point of view; nay, neither understands his own. The employer declares that the men are foolish, ignorant, act against their own interests, still more against the interests of the public.

He is quite alive to the fact (though he may not overtly lay stress on it) that their restrictive policy also interferes with his money-making. But he is probably not at all conscious that his interest in the money-making policy is supplemented by his own instinct of contrivance. The men on their part are as little aware that they are opposing something more than the mere business plans of the employer, and equally little aware of causing in themselves a similar sort of thwarting. The wages system in its ordinary form inhibits, in this respect as in others, the normal operation of our instincts and activities.

It is with some sadness that I state my opinion that the more familiar schemes for remodeling the wages system promise little relief from these difficulties. Coöperation by workmen might indeed immensely increase the chances of happiness in the performance of labor; but the history of the movement gives little promise of any considerable control of industry by groups of self-governing workmen. Profit-sharing proposes

too dim and distant a connection between the man's work and the consequences of his work. In its usual form it is after all a crude device, since the profits in which the workman shares depend but remotely and uncertainly on his own diligence and his own constructiveness. The so-called welfare arrangements are apt to be patronizing and to sap the self-respect of the employees, and in any case offer little to overcome the particular difficulties here confronting us.

On the other hand, there seem to be considerable possibilities in what is called scientific management. But the management must be not only scientific, but human. The familiar schemes have too much of the mechanical and non-human element. They tend to treat the worker like a machine, not to develop the spontaneity of the living man. I can conceive a sympathetic as well as truly scientific study of the conditions of labor, of the apportionment of tasks to fit the bents of the various kinds of men, of the ways of enlisting the workman's instinctive interest

in what he does, — search for an organization and management which shall at once increase the productiveness of industry and the attractiveness of labor. This is a task more difficult than that of the usual forms of scientific management, and also more inspiring. And with it must go training of the employer as well as of the employee. The current proposals appeal to the average employer mainly because they promise to give him more output at less expense; in part also because they promise to outmaneuver the trade-unionists. For these same reasons they are bitterly opposed by the union leaders and doubtless also by the rank and file. It is certain that such maneuvers will have no large development unless quite honest and frank. They should coöperate with the unions instead of working against them, enlist the heartfelt interests of the men rather than make a suspicious appeal to what seems to them a shortsighted cupidity.

There are other aspects of this problem of infusing interest and life into everyday labor,

on which I can touch only in the briefest way. Group interest and group emulation are psychological factors of no mean interest. The employer himself feels emulation; he is playing the game on his own account; therein lies no small part of the attractiveness of his work. Perhaps something similar can be found for the hired employee. An emulation of groups within the factory, and of factory with factory, could conceivably be made to give zest to operations otherwise devoid of attractiveness.[1] Local pride is one of the most familiar manifestations of

[1] The utilization of such emulation is by no means unknown among business managers. The United States Steel Corporation found in rivalry between its different plants for "a record" an effective spur to increase of output and so to diminution of expense; see Fitch, *The Steel Workers*, p. 186. In the construction of the Panama Canal Colonel Goethals put the army engineers in charge of the Atlantic division and the civilian engineers in charge of the Pacific division, published the steam-shovel records, and thus "hoped to arouse a wholesome rivalry between these two and secure better results both in time and money." (*Scribner's Magazine*, May, 1915, p. 544.) It is not to be questioned, I think, that rivalry of this kind not only "secures better results" but adds to the zest of the men's work.

the gregarious and emulative instincts, and can be aroused over matters important as well as trivial. Certain it is that an attitude of coöperation and sympathy with one's associates, whether they be leaders or equals, contributes immensely to the satisfaction from tasks jointly undertaken.

A broad and enlightened policy on the lines here sketched seems to me quite within the bounds of practicability. Whether it is not only practicable, but also probable of adoption, I would not venture to say. The average employer is a narrow-minded person, well-informed and thoughtful only about the small circle of his routine business operations. Too commonly he thinks of his employees as mere pieces of usable mechanism, not as human beings. The suspicions and prejudices of the workmen, engendered by their own narrow-mindedness and strengthened by bitter experiences, contribute in turn to a mechanical relation between masters and men. Yet it is only by allaying these suspicions, by tempering these prejudices, that any progress can

be made toward an industrial organization which shall not smother the natural instincts and shall promote with fuller effect the final aim of industry, — the happiness of life.[1]

[1] On the topics touched with such brevity in these paragraphs I refer to the stimulating discussion in J. A. Hobson, *Work and Wealth* (1914). See also the excellent though fragmentary remarks of Wallas in *The Great Society*, Ch. XIII.

III

The Psychology of Money-making

The text for the following discussion may be taken again from one of the British writers belonging to what may be called the canonical school. N. W. Senior, perhaps the most scholarly and broad-minded among them, took pains to consider what were the premises from which he and his contemporaries reasoned; and he stated four "general propositions" on which the science of political economy was supposed to rest. The first-mentioned among them was "that every man desires to obtain additional wealth with as little sacrifice as possible." This, like the other general propositions, "is in Political Economy what gravitation is in Physics . . . the ultimate fact beyond which reasoning cannot go."

Now this proposition, which Senior thought a mere "matter of consciousness," seems to

the modern observer, even though he be no psychologist, not at all a matter of consciousness, still less a matter of course. It is by no means obvious that all men desire to obtain additional wealth. On the contrary, there are whole races among whom satiety is reached at what may seem to the artificialized modern man a very early stage; races whose members cease to labor when a few simple wants have been gratified, and care for no additional wealth even if it can be got with but the slightest sacrifice. And among the advanced races themselves there is a very large proportion of persons, not only among the manual laborers, but among the property-accumulating members of the prosperous classes, whose wants are simple and limited, to whom leisure and relaxation appeal quite as much as additional wealth.

What perhaps is true is that a small circle of persons, especially among modern peoples of Western civilization, manifest an insatiable desire for additional wealth. Among them the trait is most of all characteristic of the

capitalist business man, — the nearest approach to the "economic man" of older literature. This is the figure that dominates modern society, directs its energies, gives the tone to the small controlling set of employers and property owners. Of such a person it may be true that he wants ever more wealth and still more; and he communicates the same state of mind to all who have ambition or hope to enter the charmed circle of the affluent and externally distinguished.

Yet even among the business men — I use this familiar term instead of speaking of "undertakers," "enterprisers," "capitalists," and what not, — there is no one simple desire or impulse. The wish for additional wealth, so far as it appears at all, is a most complex psychological phenomenon, the resultant of a number of instincts or dispositions, of which the possessor himself is only half-conscious. Of this complexity Senior himself was not unaware; but the origin and make-up of the desire seemed to him a matter beyond the scope of economic inquiry, and at all events

not likely to point to any conclusions of significance for the economist. The modern economist feels differently. The psychological analysis not only gratifies his intellectual curiosity, but promises to give aid in understanding economic phenomena and in directing economic policy.

The special topic to which we may give attention, then, is the motivation of the business man. For this purpose the following among the instincts recognized by the psychologists seem to deserve attention. First, the instinct of contrivance or construction; second, that of acquisition or accumulation; third, that of domination; fourth, perhaps not to be classed as a separate instinct, and certainly not separate from the others in its operation, that of emulation; and fifth, that of sympathy, altruism, or devotion. These may be considered in the order named; it being premised that the order is taken chiefly for convenience in exposition, not because indicative of the relative strength or importance of the several impulses.

Of contrivance I have already spoken. Doubtless it is not among the more powerful of the impulses that stir the man of affairs; though surely not to be neglected. Probably it is of greater significance as concerns the relations between employer and employee than for the understanding of the psychological characteristics of the employer himself. Without endeavoring to add to what has been said on this topic in the preceding, I will proceed to the consideration of the other instincts enumerated.

Second on our list is acquisition, collection, ownership. My brilliant and lamented colleague, the late Professor James, pointed out how it could be turned to account by teachers. They should enlist and guide the collecting bent among their pupils; and he remarked incidentally that "the depth and primitiveness of this instinct would seem to discredit in advance all radical forms of communistic utopia. Private property cannot be practically abolished until human nature is changed." [1]

[1] Wm. James, *Talks on Psychology to Teachers*, p. 51. Graham Wallas (*Human Nature in Politics*, p. 36) thinks

Other thinkers have recognized the existence of a true instinct for ownership; and even though they might have no prepossessions in favor of private property, they have noted that the socialists, so far as they propose to do away with ownership entirely, run counter to a strong and universal trait.

Nevertheless, I am skeptical of the existence of an instinct of ownership as such; and at all events I am very doubtful whether this plays any special part in the psychology of the business man. What the biological analogies suggest is collection rather than ownership. An instinct for gathering food is to be found among all sorts of animals, — insects, birds, mammals. The dog, even though he be an overfed pet, buries his bone in obedience to a trait inherited from his wild ancestor. The instinct is unmistakable among children, to whose behavior we look for evidence of

"there are good grounds for supposing this [the desire for property] is a true specific instinct, and not merely the result of habit or of the intellectual choice of means for satisfying the desire for power."

the primary impulses. I have already referred to its atavistic and irrational character in the human adult. The strange assortment of "collections," — butterflies, minerals, postage stamps, violins, pottery, old masters, manuscripts, incunabula, — is reducible to some kind of order and homogeneity only through being subsumed under the generic trait. The collectors deceive themselves by pretenses, by talk about the interests of art and science; in reality, their doings are essentially similar to those of the bone-burying dog.

But it is questionable whether this factor plays a large part in the business man's doings. His behavior on the whole is not much akin to that of the miser; and the miser is your collector par excellence. Where he shows indications of a collecting bent, they appear rather in the spending of a fortune than in its making. Often enough your successful man of affairs turns to acquiring a lot of paintings, books, manuscripts, what not. Just how far he is moved by the instinct of collection, how far by slavish emulation in dis-

play, how far by a real love of art or letters, it might be difficult to say. Beyond question there is a mixture of motives; and the elements and proportions in the mixture vary from individual to individual. The collecting instinct may be strong in some business men, just as it is strong in some persons far removed from the ways of business. But it does not seem to be an outstanding or characteristic trait.

It may be urged that there is an instinct for acquisition in general (*Erwerbstrieb*, as the Germans call it), and that we should speak of this rather than of collection when we try to analyze the business man's temperament.[1] Collection is directed to a particular object, be it postage stamps or old masters or (as with the miser) hard cash. Acquisition, on the other hand, is for possessions in general. But I doubt whether there is anything in the nature of an all-encircling acquisitive instinct, just as I doubt whether there is a real instinct of ownership. To say that there

[1] Cp. Schmoller, *Volkswirthschaftslehre*, Vol. I. p. 32. (Ed. of 1900.)

is an instinct of acquisition comes to much the same thing as to assume, with our old friend Senior, that all men strive for additional wealth without limit. Why *some* men seem to do so is precisely the problem which we are trying to solve.

Turn next to the instinct of domination. The psychologists and biologists apply to it more commonly such terms as "pugnacity" and "predation." "Domination" seems to me to bring out more clearly its influence in the social and economic sphere. Biologically it is doubtless referable to the struggle of male against male, and thus to the sexual instinct, whose workings in so many unexpected directions were laid bare through the patience and genius of Darwin. It is typified by the lord of the herd and by his conquest and outdriving of rivals in the herd. Probably in the human animal it is strengthened by that phase of the struggle for existence which appears in the contest for the land. Tribe against tribe, invader against invaded, the vast folk wanderings of nomadic races, —

in these unceasing struggles the victory was likely to remain with those who had the most highly developed instinct of conquest. Through historic time and perhaps prehistoric also[1] the tale of struggle has been well-nigh continuous. And the instinct of domination, like others, has powerfully influenced the actions of men long after the circumstances under which it developed had ceased. This alone enables us to understand the rivalries of dynasties during the later Middle Ages and through modern times. It survives in the nationalist fighting temper, which baffles the apostles of peace so persistently and (to them) so inexplicably.

The importance of the instinct of domination has lately been dwelt on in a curious and

[1] Professor Veblen, in his *Instinct of Workmanship*, — a brilliant and original book, like everything that comes from his pen, — adduces evidence to show that through a long prehistoric period the comparatively peaceful instinct of workmanship (contrivance) prevailed over the warlike one of domination. I can profess no competence to judge on this question, but suspect that the evidence is not sufficient to lead to well-defined conclusions.

suggestive way by a scholar who approached the general subject chiefly from the historical point of view. Professor Sombart, in his remarkable studies on the genesis of modern capitalism, has laid emphasis on the *conqueror* strain in the business leader. Those races in which the spirit of adventure and conquest was strong are also those in which the characteristic qualities of the business man are most abundant. Such, he believes, were the Romans, the Vikings and Norsemen, the Genoese and Pisans in their piratic days, the English freebooters and adventurers of Tudor times, the English and the Germans; whereas the Goths and Celts, and, in general, the Latin nations in which the Celtic racial strain is strong, show less of the spirit of domination. And this spirit he distinguishes from that of bargaining and merchandising, which is the more important element in the business endowment of the Florentines and Jews and (not so plausibly made out) of the lowland Scotch.[1]

[1] Sombart, *Der Bourgeois*, Ch. V, p. 69 seq.

I would not undertake to say how far such differences of racial aptitudes can be proved. What concerns us in the present discussion is that the historical and the psychological methods lead to similar reflections. Domination, power, conquest, — this plays a great part in the industrial world as well as in the political. It goes with the love of adventure, to which we give in business life the more euphemistic term "enterprise." It was said by one who knew well the late Edward H. Harriman that his most daring enterprises, — which the malcontents were disposed to describe as forays, — could be understood only by bearing in mind that he was a "dead game sport." The late J. P. Morgan, a man of very different type, was discerned by all who came in contact with him to have an overpowering personality. The projectors and ruling spirits among those who built the earlier Western railways are described by one of their associates in the following terms: "They were men of fine physique, large brain, and tremendous force and energy. Had they

lived two hundred years before, they would have become kings and dukes. At the head of their clans, with the battle-axe or broad-sword, they would have led to victory or death. No sentimental nonsense about the rights of others, the value of human life, or the sorrows of widows or orphans would have blocked their way. They were cast in that impetuous mould which brooked no opposition." [1]

This disposition seems to come into operation not so much in the earlier as in the later stage of the "successful" man's career, and in that later stage goes far toward explaining the insatiableness of the appetite for wealth, — that sustained desire for *additional* wealth which Senior regarded as a matter of common consciousness and which yet seems to the philosophic observer a phenomenon both curious and uncommon. During the early and tentative stages of his career the man of dominating temper is probably still ruled by other and more familiar impulses, such as the

[1] Stickney, *The Railway Problem*, p. 12.

mere love of comfort and the ambition for social distinction (to be considered presently). But as his enterprises grow, he feels the itch of power. Then we witness the unceasing extension, the accumulation of more money and still more, the building up of business so vast as eventually to sap the strength and impair the health and happiness of their creators. To this sort of thing there seems to be no limit. The term "captain of industry" fits better than its glib users think. Like Alexander or Napoleon, the captain of industry would rule the world.

The motivation for the incessant enlargement of the scale of operations by the great business leaders seems to me to be misread by Sombart, of whose studies, none the less, I would not speak otherwise than in the highest terms. He would explain the phenomenon on the ground that the business enterprise, after a certain stage has been reached, is no longer servant but becomes master. The captain of industry finds he *must* expand; he cannot stop. He can hardly be

said to possess his enterprises; he seems veritably to be possessed by them.[1] And it is true that some such phrases are likely to be used by the man himself when he tries to explain his doings. Yet in thus analyzing the case he but gives still further illustration of the half-truths and the pretenses, the conventional phrases, by which men deceive themselves. It is far from true that the man *can* not stop. He does not wish to stop. The force that holds him to his endless task is not anything immanent in the business

[1] See the interesting passages in *Der Bourgeois*, p. 448, and the excerpts there given from the memoirs of Rathenau and Carnegie. Compare, however, pp. 225–227, where the "Machtgefühl" is described.

I cannot accept the opinion expressed by Sombart (*Moderne Kapitalismus*, Vol. I, pp. xx, xxii; cp. also p. 378 seq.) that general psychological analysis is of no service. In the later book (*Der Bourgeois*, p. 222 seq.) something in the nature of set psychological analysis is nevertheless essayed by Sombart himself. He finds four "elementare Wertekomplexe" in the child; these, and these only, are to be found in all the characteristically modern valuations or ideals, *i.e.* those of the capitalist era. For each of them, as transcribed below, I append comments on their relation to the scheme of psychological explanation sketched in these lectures:

enterprise; it is the power of overmastering instincts in himself. Among the instincts thus possessing him and holding him to his industrial activity, some part is played, as I shall presently explain, by the instinct of devotion. But that of domination seems here to be the more important. The business man who has "made his pile" does not consciously weigh the pleasures of retirement and leisure

1. The sense of *bigness.* — I confess to a doubt whether this is referable to any of the instincts mentioned in modern psychology.

2. The love of *speed.* — This would seem a manifestation of the instinct of the chase; it is found in all classes and under all economic conditions. It is not a peculiarly modern trait, nor is it specially characteristic of the business classes. Compare what is said by Groos (*The Play of Man*, p. 236) about the hunting instinct, "the impulse to pursue a fleeing creature . . . as much an inborn impulse in man as in the lower animals."

3. The attraction of *novelty:* perhaps referable to the instinct of contrivance? or the instinct of curiosity? (see below, p. 108).

4. The love of *power:* this is the instinct of domination.

The inadequacy of Sombart's classification and analysis seems to show that the student of social and economic phenomena has after all something to learn from general psychology.

against those of activity and command; neither does the business itself possess him. He simply follows the inborn love of rule until old age or failing strength compel him to relax his grasp.

Some things familiar in our industrial life are more easily understood from this point of view. The instinct of domination plays a considerable part, I believe, in the movement for combination. We have seen of late years how frequently men of established worldly position and power, so rich that still further accumulation can add nothing to their creature enjoyments, nevertheless scheme and labor with all their energy for great combinations, huge monopolistic enterprises. We see how fiercely and ruthlessly they fight intruders and competitors. Here again Sombart seems to err in emphasis. He suggests that ruthlessness and unscrupulousness are peculiar traits of the modern economic man.[1] These seem to me to be traits of the conqueror; they are manifestations of the instinct of domina-

[1] *Der Bourgeois*, p. 233.

tion. It is not merely money-making in itself, or the motives usually associated with it, that lead the trust magnate to crush a rising competitor. To no small degree, it is the instinct to suffer no opposition to control. So far from being avowed, this impulse as a rule is not even consciously felt by the very persons whom it moves. They will talk of the economies to be expected from large-scale operation and consolidation, of the wastes of competition, of better service, lowered prices, and what not. Yet in truth the schemes for overpowering combinations are to a great degree mere manifestations of megalomania.

The instinct of domination, further, helps to explain the intemperate opposition to trade-unions which is almost invariably shown by the business leader. I have already noted how the instinct of contrivance causes him to resent the restrictive policies of unions. At least equally significant in explaining his attitude is the love of power. He wants to "run his own business." This is by no means

inconsistent with a genuine concern for the well-being of his workmen. The able employer very commonly has a paternalistic feeling, a wish to see happy faces among those whose lives come under his influence; the weight of the kindly disposition in any individual depending on the extent to which another instinct, that of sympathy or devotion, enters into his psychological make-up. But in any event he does not wish to be interfered with. And, *per contra*, precisely this same instinct of domination easily takes possession of the strong labor union and especially of its leaders. To the unionists, as to the employers, there is an immense satisfaction in giving orders, in exacting obedience. The labor leader drunk with power is as natural a figure as the capitalist drunk with power. Alongside the questions of wages, hours, working conditions, is the contest for control. The strong employer's desire to crush the union is not merely the outcome of cold calculations of profit; unaware of what is working within him, he obeys a primal impulse.

I turn now to a trait or disposition which perhaps deserves even less than the preceding to be called an instinct, — namely, emulation, and its concomitant of imitation. One hesitates to classify it as an instinct because it seems least of all to be excited by a specific stimulus or to lead to specific action, — these being the marks of what the biologists would regard as a true instinct. But the same doubt arises concerning the other traits under consideration. The instinct of contrivance in man is obviously not directed to a specific end, as it is in the bee or the beaver. Neither is the instinct of collection. Barring those instincts which have most closely the character of reflex action, like the sexual instinct and the infant's suckling, we have to deal throughout with innate tendencies of a general sort. From the earliest stage they are affected by experience and environment, are subject to diversion, often show their influence in unexpected ways.[1]

[1] Hence the biologist would deny that any of them are instincts in the sense proper for his inquiries. See Lloyd Morgan, *Instinct and Experience*, Ch. IV, p. 108. Because

Such at all events is clearly the case with the tendency to emulation.

How pervasive is this tendency, we do not need to be told. William James remarked, that "nine-tenths of the work of the world is done by it." [1] It combines spontaneously with the instincts of play, of the chase, of construction, of domination. The particular form in which it is probably most pervasive, and certainly most significant for the inquiries of the economist, is the love of social distinction; meaning by "social" what the fashion columns of the newspapers mean when they gossip about "society." The wish to be considered a member of a superior set appears in every organized aggregation of human beings. The Darwinians would find its origin, and its analog among animals, in sexual selection; a view confirmed by its special strength during adolescence and the years

of a difference in degree, — the *less* specific direction of emulation and imitation, — Graham Wallas would remove this from the list of instincts or "dispositions," even in the wider non-biological sense. Wallas, *The Great Society*, p. 121.

[1] *Principles of Psychology*, II, p. 409.

immediately after adolescence. What young person is free from the desire to be "sporty"? But it is found in relations and associations that are far removed from the instinct of sex, and indeed is among the very few impulses which will sometimes overpower that instinct. In the economic sphere the wish to swing yourself into the supposedly upper class is the force which more than any other influences the budding businessman. During the earlier stages of his career, as I have just remarked, it is this motive above all that impels him. It is only in the later stages, — if he be among the leaders of the first rank, — that the instinct of domination becomes conspicuous. It may then supplant in part that of emulation, in part combine with it and give it a different direction. But the great majority of those who actively conduct business are probably impelled throughout their lives by social emulation more than by any other force. Not until we reflect deliberately do we become aware how preponderantly the chief objects of desire and ex-

penditure among the possessing classes are simply manifestations of this disposition. The garb of the well-to-do and the rich, their dwellings, their decorations and their art, fashions, amusements; their display and what we call their extravagance, — all are sought and enjoyed mainly because they give evidence of belonging to the supposedly select superior classes. And where the community is democratized as much as it is in the United States, the barriers between classes being no longer maintained by law or rigid custom, this passion has universal scope. Freedom of opportunity, so far from putting an end to what the philosopher calls vanity and ostentation, seems in reality to foster it.

A recognition of the universality of social emulation served to confirm the older economists in that doctrine of theirs which I have made the text of the present discourse, — that all men desire to obtain additional wealth indefinitely. It is of the essence of emulation that there is never an end to it. Whoever may be in the van, some one else wishes to surpass

him; and so on without limit. Adam Smith remarked that "the desire of food is limited in every man by the narrow capacity of the human stomach; but the desire of the conveniences and ornaments of building, dress, equipage, and household furniture seems to have no limit or certain boundary." [1] The belief that display was indefinitely extensible, and that therefore human wants in general were indefinitely extensible, was at the bottom of the older reasoning about over-production. One of the notions which the older British school spurned with almost angry impatience was that there could be such a thing as an excess of output. Nonsense; is it not obvious that men's wants are limitless, and that no more can possibly be turned out than they will buy and use? And such in truth seems to be the case when it is the emulative disposition that sets in motion money-making and money-spending.

The modern manifestations of social emulation seem to be derived chiefly from feudal

[1] *Wealth of Nations*, Book I, Ch. XI, Pt. II (Vol. I, p. 165, Cannan Ed.).

ideals and traditions. Just as it can be said that the instinct of domination characterizes both the medieval conqueror and the modern captain of industry, so it can be said, with even greater show of reason, that the special forms of emulation which stirred the one have been transmitted to the other. The ways of life among feudal superiors came to be copied by those of lower station. The ideal of the feudal upper class was leisure and exemption from prescribed tasks. The chase and emulative play were the occupations of the day.[1] The middle classes, as they became possessed of substantial property and assured income, absorbed the same ideals and strove for the same objects of ambition. Wherever permitted to rise, — most strikingly so in England, — the rich bourgeois allied himself with the feudal aristocrat. To the philosophic observer it is amusing to see the

[1] Sombart maintains (*Der Bourgeois*, p. 103) that feudal lords were engaged in money-making (capitalist) operations much more than is commonly supposed. But such activity, even if shown to be usual and typical, is not inconsistent with the transmission of emulation as indicated in the text.

unabashed pursuit of the impoverished noble by the millionaire heiress — and *vice versa;* just as it is amusing to see the modern noble drop the ancient scorn for trade and join the scheming capitalists in unvarnished money-making. The shop girl to whom the Sunday newspaper caters with its photographs of society women is but one in a long array of persons all of whom are under the spell of a phase of emulation handed down from the Middle Ages. The course of development is not difficult to trace: first, the forces which brought about the feudal system, — the struggles between clans and peoples, the universality of predation and the need of protection against unceasing predation; thence the rise of a superior class of titled warriors; and finally the acceptance and perpetuation among all the well-to-do of the thus established ideals of aristocratic position and conduct.

IV

Altruism; the Instinct of Devotion

I turn now to an instinct of quite a different kind, variously described by the terms pity, sympathy, love, altruism, the moral sentiment, devotion. The last-named, "devotion," though not so familiar as the others, seems to fit best into the present discussion, and I shall use it freely in the following to denote those aspects of the business man's motivation which are often spoken of as "non-economic."

The older controversy, whether man is or is not endowed with a moral sense, — whether there is a radical opposition between egoism and altruism, — has died out. The questions which psychologists now debate concern not the existence of the moral sentiment, but its origin, scope, relativity. A view much in favor is that it roots in the maternal and

paternal instincts, and is an outgrowth of the domestic affections.[1] Beyond question it appears in some individuals with overpowering force; just as the instinct of contrivance appears with irresistible intensity in a Cartwright, Ericsson, Edison. As regards either trait, we are justified in regarding these extraordinary manifestations as pointing to a disposition which, though overlain and concealed almost beyond recognition at the other extreme, nevertheless is universal and innate.

It is most curious that the earlier economists ignored so completely the existence of the instinct of devotion; or if they did not quite ignore it, brushed it aside with something like impatience. Their attitude is curious because this very instinct probably evoked a strong and quick response in the breast of every one of them. I dare say that without exception they were men of high devotion

[1] See, *e.g.*, Sutherland, *The Origin and Growth of the Moral Instinct* (1898). Similar conclusions, also harking back to Darwin, but with less stress on the paternal instinct alone, are in Westermarck, *Origin and Development of the Moral Ideas* (1908).

and public spirit, with much more than the average disposition to make sacrifices for the good of others. How did they come to be silent or inattentive about an impulse which nevertheless they obeyed?

The explanation is to be found in several directions. Much was due, no doubt, to the sway of the associationist psychology and its companion, hedonistic ethics. Honesty was regarded as merely the best policy; virtue was the intelligent pursuit of pleasure; devotion to the interests of others was merely habituation to a mode of conduct which had been found to be expedient in the long run. The sway of these tenets no doubt goes far to explain the attitude of the earlier economists, especially those of the British "classical" school.

Yet it would seem that this alone cannot tell the whole story; as is indicated by the fact that the same brushing aside of altruism, and the same neglect of all except "strictly economic" reasoning, is to be found among modern writers whose intellectual affilia-

tions are quite different. The mathematical economists, the Austrians and their followers, contemporary theorists of all sorts, reason with precisely the same exclusion of all but the narrower self-regarding motives. They, too, even though quite free from the dominance of the hedonistic ethics and certainly not conscious upholders of its principles, nevertheless apply the same bald calculus to the analysis of economic phenomena.

The main explanation of the persistence of this as the sufficient organon of economics is to be found, I suspect, in a trait of which most economic writers themselves are hardly conscious. They are impelled by what may be styled the ratiocinative instinct. Not less curious than the way in which the economists of older and younger date close their eyes to their own moral feelings is their unconsciousness of the special strength in themselves of this disposition. They are little aware, if at all, that they deal with their subject in obedience to a bent of their own for "pure" reasoning and "scientific" procedure. The

modern psychologist, who in turn may proceed in the same way, has at least clearer consciousness of his tricks and ways. He turns his analytic powers on himself, and finds the intellectualistic and ratiocinative process to be but one among the modes of cognition, and not necessarily the only one permissible; certainly not that which all men are always disposed to apply. William James — to refer once more to that most stimulating writer — protested against the hard-headed man's assumption that his was the only tenable way of looking at the universe. In reality the hard-headed person was but following his own bent, which was no more entitled to be set up as the only "reasonable" attitude than that of the man of intuition and emotion.[1] And elsewhere, in his later writings, he laid stress on the

[1] See the essay on "The Will to Believe" in the volume of collected papers to which this one gave the title. As James himself remarked (if I am rightly informed about some later utterances of his) a better indication of the tenor of this essay would have been given if he had headed it "The Right to Believe."

distinction between the two outstanding types of temperament, the "tough-minded" and the "tender-minded." They represent very different ways of regarding the universe and every phase of its phenomena, neither having any claim *à priori* to be thought more valid than the other.[1]

Psychologists of similar catholic spirit call attention to the importance of some of our inborn traits for the explanation of intellectual procedures which are supposedly superior to any bent or bias. Among the classified and enumerated instincts is that of curiosity; and closely allied to this is the "disposition"

[1] It may not be superfluous to quote the delightful characterization of the two attitudes (*Pragmatism*, p. 12):

The Tender-minded	*The Tough-minded*
Rationalistic (going by "principles")	Empiricist (going by "facts")
Intellectualistic	Sensationalistic
Idealistic	Materialistic
Optimistic	Pessimistic
Religious	Irreligious
Free-willist	Fatalistic
Monistic	Pluralistic
Dogmatical	Skeptical

toward ratiocination. Curiosity is doubtless to be regarded as a true instinct. So much we may infer from its presence in animals, where it may be argued to be among the favorable factor in the struggle for existence, and from its conspicuous and ubiquitous presence in children. Scientific speculation itself is often nothing other than a manifestation of the instinct of curiosity. What utilitarian explanation can be given of research on such inconsequential matters as prehistoric archæology or the physical constitution of stars that are distant from us millions of light-years? Scientific inquiry has turned on itself, as it were, and inquires *why* we inquire; our instinct of curiosity being directed to the analysis of curiosity itself.[1]

I would not undertake to express any general conclusions of my own on these

[1] Cf. what is said of the instinct of curiosity by McDougall, *Social Psychology*, pp. 57, 315. "The instinct of curiosity is at the base of many of man's most splendid achievements, for rooted in it are his speculative and scientific tendencies." Wallas (*The Great Society*, p. 44 seq.) doubts whether curiosity is an "instinct"; it is a "disposition," on the dividing line

matters; nor to say whether economists are on the whole to be classed as tender-minded or tough-minded. Probably they are commonly of the tough-minded type. Though as a rule intellectualistic in their modes of reasoning, they are empiricist and sensational as regards their premises. What I am concerned with here is that there is among them a temperamental bent. This bent is, in the leading and influential economists, unmistakably toward rigid and "scientific" analysis. It is toward explanation by general reasoning, toward setting aside qualifications and complications, toward the ascertainment of a general trend in the phenomena. Now the surest way to reason sharply and "scientifically" about economic phenomena, and to reach precise conclusions regarding them, is to assume once for all that men

between instinct and intelligence; and there is a "disposition" to think and reason, no less than one of curiosity. Illustrations of the "disposition" of men of science are given by P. H. Douglas, in a paper on Non Commercial Incentives in Economic Life, in *The Trend of Economics*, edited by R. G. Tugwell (1922).

will procure anything and everything as cheaply as they can; that they will never deviate from the barest and simplest self-regarding behavior. Apply the hedonistic calculus to the bitter end, and you can reach conclusions susceptible of formulation with the precision deemed most severely scientific. The crowning example of this procedure is in the application of mathematics to economic reasoning. The most elaborate and intricate results are "proved" by the mathematical method, on the assumption throughout that men will obey the narrower self-regarding motives as surely and unerringly as matter obeys the law of gravitation. By this procedure, and by this alone, can economists build up an accurate, logical, self-consistent body of doctrines.

Probably the very fact that economics is *not* an exact science strengthens the disposition to state its conclusions in exact terms. We are constantly told that its conclusions hold good only as approximations. They are true only in the rough; they repre-

sent tendencies; they assume static and not dynamic conditions; and so on. All this is not to be questioned. Nor would I for a moment question either the usefulness or the inevitableness of this mode of procedure. On other occasions, and in connection with the methodology of some typical concrete investigations, I have pointed out the unquestionable necessity which confronts the economist, of relying on deductive reasoning from the hedonistic premise.[1] But the explanation of such reliance is not solely that the economist must perforce do so. As a rule he also *likes* to do so. The sort of person who makes a good economist is temperamentally impatient of loose ends and rough edges. He likes results that are clean-cut. He is apt to disregard the admitted qualifying factors, and to treat the qualifications as aberrations from the truth, not modifications of his conclusions. And among the things which he is thus tempted to push aside as

[1] In the volume on *Some Aspects of the Tariff Question*, pp. 155, 512.

aberrations, negligible in the formulation of accurate results, is the influence of sympathy, or altruism, or devotion.

Coming back now to the particular topic which has given occasion for these general remarks, — the psychology of money-making, — we seem to be justified in saying that there is less occasion for criticizing the economists than on some other matters in their science. If it is censurable that they have ignored sympathy and devotion in their theoretic speculations, they can at least allege that men of affairs also, however much they may feel such influences, do push them aside in their ordinary industrial activity. Business is business: it must not be mixed with charity. I suspect that the basis of this neglect of feelings which no one dares deny or spurn is essentially the same for the industrial leader as for the speculating economist. It rests on the tendency, and indeed almost the necessity, of ratiocination. Once you conduct your business on other than strict "business" principles, you do not know where

you are. There is then no possibility of accurate reckoning, of strict accounting; no telling how you are really coming out. No doubt there are other reasons also for keeping charity and good will outside of business. The instinct of domination, for instance, is uppermost during the competitive struggle, and gives way to that of compassion only after the victory is won. Business is business in another sense, — in the same sense that war is war. There is a striking passage in those remarkable Memoirs of General Marbot, in which it is recounted that the conquering Napoleon, after having mercilessly caused the slaughter of thousands by directing that his cannon be turned on the frozen surface of the lake over which the Russians were retreating, was moved to compassion when he saw a single wounded officer floating on a cake of ice in helpless agony, and called for volunteers to the rescue.[1] So the business man whose competitor has been ruined will subscribe most willingly

[1] Marbot, *Memoirs* (English translation) p. 165.

and liberally for the support and comfort of a bankrupt rival. Like Harry Percy,

> "I'll give thrice so much land
> To any well-deserving friend;
> But in the way of bargain, mark ye me,
> I'll cavil on the ninth part of a hair."

When it comes to the spending of his means, the most remorseless industrial conqueror may manifest devotion of the highest sort. He is likely to scheme as zealously for a charitable cause, to organize its affairs as efficiently, as in his business ventures.[1]

Nevertheless, it would be a mistake to suppose that even in the conduct of business itself everything is explicable on grounds of cold calculation, or even by reference to such more subtle elements as the instinct of

[1] It is this striking difference between the motivation of similar activities that led Professor Adolf Wagner to classify economic systems under the three heads of (1) public, (2) private, (3) "caritative" or charitable. The suggestion that we consider the activities which come under the third head as a separate system or order has not met with much favor; but at least it recognizes a great mass of phenomena whose very existence was ordinarily ignored as "non-economic."

domination. The "strictly economic" doings of the business man, as well as those which are commonly treated as quite outside the economic pale, are often in reality manifestations of a wider and larger self. There is devotion to the business itself; an ardent wish to insure its success, a pride in it, a sacrifice of ease and even health for the sake of its prosperity. The business may become part of the man's larger life, something greater than himself and outside himself. No doubt feelings of this sort are stronger in some persons than in others. There are cold and impassive men of affairs, to whom it costs not a pang to sell out or abandon an established enterprise and turn at once to another. Yet I suspect that in the majority of cases a shift of this kind means some heart-wrench. Not money-making alone is the goal and end. There is some expression of the man's personality, something to which he gives himself for its own sake. Evidently feelings of this kind are more likely to be present in the conduct of an individual's

business or in a partnership than in that of a corporation. Neither the holder of a fragment of stock nor the manager of a specialized and restricted department in a great organization is likely to be imbued with such sentiment. Even a general manager or president cannot feel toward the business which he administers as would a private owner. In this regard, as in so many others, the methods of large-scale corporate organization, impersonal and mechanical as they are in the stage of development as yet reached, give little play to instincts and faculties that mean much for the zest and happiness of life.

That interplay of various motives and impulses which is characteristic of all human action, and perhaps is most characteristic in the activities of the business man, shows itself again in connection with the manifestations of the instinct of devotion. With it may be allied, for example, the instinct of contrivance. As I have already remarked, the business leader finds in his enterprises the same sort of satisfaction as that of the

inventor in mechanical devices: a pleasure in the act of contriving and operating, as well as surrender of self to one's own creation. More important perhaps is the alliance of the instinct of devotion with one more conspicuous and doubtless in the majority of these cases more powerful, — the instinct of pugnacity or domination. How large a part this plays in the motivation of the captain of industry I have also had occasion to consider. It may seem odd that two dispositions which are diametrically opposite in tendency — the one essentially altruistic, the other essentially regardless of others, — should combine toward one single-minded course of action. Yet that they do so is the most familiar of experiences. The sentiment of patriotism is precisely such a compound of pugnacity and devotion, — a mixture of extraordinary explosive power, and far more potent in its influence on men than either component acting by itself. The business man, as has been pointed out in recent speculations on these topics, seems often to

be veritably possessed by his enterprises.[1] So far from being in command of them, it is they that bend him to their needs. This obsession, or mechanical pursuit, or unrational persistence in perfunctory money-making, — whatever one chooses to call it, — is not a simple or homogeneous trait. It rests deep in the complications of human nature. The narrower self and the wider self alike find expression in it; not merely pugnacity and emulation, but devotion also.

A much clearer proof of the power of the altruistic influence is found in the conduct of public business, — meaning thereby the forms of enterprise which are carried on directly by public authority, and are consciously designed to secure the largest public advantage. There we rely overtly on wider motives and stimuli than those of private industry. The very man who will insist on conducting his own affairs on the strictest business principles, paying no more and no

[1] Compare what was said above, p. 90, on Sombart's discussion of this topic.

less than the market rate, will avowedly and proudly give his services to the public for much less than he could secure in private life. Something must be allowed, no doubt, for the conspicuousness of public posts, for the sense of honorable employment. Public officials are partly paid in honor, as are academic professors and ministers of the gospel. But I am sure that it is not a true opinion which supposes this alone to explain the acceptance of meager salaries in public employments, — which treats the matter as one simply of the "net advantages" of the several occupations. No; an impelling force is the sense of duty, the wish to promote general well-being, the instinct of devotion. Any one who observes without prepossession what is going on in the modern world, in our United States at least as much as elsewhere, must admit that the social and political reformer is able to draw on a large fund of public spirit in business circles. The problem is not whether it is there, but how to evoke it, how to bring it to bear.

Now the distinction between public business and private is an artificial one. The public has a concern in all business. Just in what way the conduct of private business is a matter of public concern, it is the chief task of the economist to explain. The distinction between what is called public industry and private is one of method, not of aim. There are grounds — more or less shifting and uncertain — for maintaining that some industrial operations are likely to be conducted with best effect on general well-being under private ownership and management, others with best effect under public ownership. But is so great a cleavage inevitable between the two as regards the motives to which they appeal? It is at least conceivable that the spirit of devotion, which plays its large part in public business, may affect the conduct of private affairs also. In both directions, the problem, to repeat, is not so much to discover it as to bring it to bear, — to combine and reënforce the vigor, the continuity of action, the special intensity

of emulation, which mark the ordinary money-making activities, with the submerged feelings of a wider self brought to light when direct appeal is made to public spirit.

Enough has been said to justify the statement with which I began, — that the desire for additional wealth, far from being a simple premise in economics, is highly complex. It is a curious blend of a number of instincts. Some of these will have greater strength in one individual, others in another. Their relative influence in directing conduct will be greatly affected by education, the state of public opinion, habituation. We are unable to say just how far they are rooted and unchangeable, how far subject to modification through the environment. It is certain that no one among them can be stamped out entirely; it is certain also that all are in some degree subject to deliberate control. A part of the problem of human happiness — by no means the whole of that problem, but an important part of it — concerns the extent to which we shall give them scope or

repress them. The sexual instinct — to take an illustration of the most obvious sort — must be kept within bounds, yet it cannot be eradicated. No sensible person now doubts, notwithstanding the noisy talk which we sometimes hear, that marriage and monogamy bring the adjustment best for human happiness. Whatever modification there may be in details of existing law concerning the family, there must be no unbridled scope for the sexual passion, nor yet lack of opportunity for its satisfaction.

Let me say a few words, in conclusion, on the bearings which speculations like these may have on the problem of social organization and human happiness.[1] It would be presumptuous to pretend to offer anything more than hints. I would indicate where the problem lies. It is part of the great problem of private property and socialism. The desire for additional wealth is the special psychological appurtenance of the prosperous and property-owning classes. The question how

[1] Cf. J. A. Hobson, *Incentives in the New Industrial Order* (1922).

far this complex combination of impulses is modifiable, is part of a whole series of questions on the possibility of modifying the capitalistic régime. Let me mention some elements in this large problem suggested by the preceding discussion.

Some of the constituent instincts, it would seem, can be enlisted and encouraged almost without reserve. Others, though they are too strong to be entirely suppressed, must in some way be held in check.

There would seem to be no reason why the instinct of contrivance, for example, should be restrained. I have pointed out that the present economic organization, while tending to stimulate it in the capitalist employer, often smothers it in the hired laborer. The sum of human happiness could be increased by enlisting it and encouraging it among those who work for wages. On the other hand, that same instinct needs to be steadied, and its aberrations and idiosyncrasies prevented. It should be guided into the channels of general usefulness. This much the pervasive

desire for wealth does tend to bring about. It turns the inborn bent to the contriving of those things which are of general service. How shall your collectivist society achieve the same result? The question may not be unanswerable; but it is not to be lightly brushed aside.

The instinct of collection, — to state again the opinion which I have already expressed, — is not an instinct of ownership or property; nor is it among the more powerful and ineradicable. Scope for it should doubtless be given. This much, indeed, is admitted by almost all who frame socialistic utopias. Collective ownership, even when pushed to the farthest, is not to be quite universal. Some things are to be your very own, especially in the array of what we call "consumable" goods as distinguished from instruments of production. Mr. Wallas has suggested[1] that it might suffice to satisfy the instinct of acquisition by a simulacrum, — some pretense or sop, sufficient to soothe the

[1] *Human Nature in Politics*, p. 37.

irrepressible longing, yet negligible in its effects on the distribution of wealth; just as the instinct of the chase is satisfied by shooting at clay pigeons or "hunting with a camera." It may be so; at all events, I am not among those who find in this aspect of human nature a bulwark of the institution of property or an insuperable obstacle to collectivism.

The case seems to be different with emulation. Here we have an instinct, or disposition, so powerful and so pervasive that it must always be reckoned with. To push it aside would be to deprive life, for most men, of all its spice and flavor. A Buddhist placidity of mind, a communist equality of rank, — these are not in accord with the instincts powerful in the immense majority of mankind. A society organized on any such basis would doubtless prove impossible of permanent continuance. Before long, consciously or unconsciously, it would be recast. And the particular form of emulation which I have entitled "social" seems to be likewise

ineradicable. No doubt, since it demands that some should be higher in station, it means necessarily that others will be lower. But these others would rather be lower than live in featureless equality. Gradations, hierarchies, shining leaders, emulative aspiration, — all these appear spontaneously whenever men get together, whether for play, for mutual help, for voluntary association, or for the great compulsory association of the state. Every Englishman is said to love a lord; every American is said to love a title. The exaggeration is doubtless no greater in the one statement than in the other. How widespread are the "fraternal orders," with their marvelous lists of titular dignitaries!

Possibly this instinct, like that of acquisition, could be satisfied by a pretense or simulacrum; something on which it could seize and feed, not so far-reaching in economic consequences as the existing disparities in wealth and in social station resting on wealth. Many persons, collectivist dreamers and others as well, have imagined systems of honors

and decorations which should incite men to public achievement. A highly intelligent government, whether despotic or democratic, might conceivably institute such a system with effectiveness. Something of the kind is attempted in the orders and titles which now figure so much in European countries: interesting cases of simulacra, the empty phrases and external trappings of feudal hierarchy being utilized, yet divested of their ancient content and significance. Something analogous in American life appears in the conferring of honorary degrees by our universities. I would not undertake to say how far a similar method would be feasible in the strictly industrial sphere, or how far titles and trappings would be effective if conferred (as at present they are not) with complete dissociation from differences in wealth and income. Suffice it to point out that here is at the least a problem for the ardent social reformer. Social emulation is a force of extraordinary strength; its manifestations are endless; it affects, even though in very different ways, the refined no

less than the vulgar. It is utilized, and is guided to much advantage, even though not to the best conceivable advantage, by the institution of property and the social stratification which is based on accumulated property. Who can say whether anything comparable in effectiveness on the great mass of mankind could be devised under a different organization of society?

At first blush, it would seem that our present question is susceptible of but one answer as regards the instinct of pugnacity. There cannot be domination without subjugation; the elation of victory necessarily brings also the anguish of defeat. So far as a capitalistic and individualistic society fosters this disposition, it appears incapable of adding to the sum of human happiness. The losses would seem at the least to balance the gains.

Yet the case is by no means simple. The instinct of domination is a phase in the development of leadership. It does not need to be said how transcendentally important is leadership, in industry as well as in govern-

ment and war. To curb it in any direction is to curb the most potent force for the progress of mankind. Can it not be utilized, enlisted, encouraged, turned into channels of general service? Something of this sort has in fact been achieved by our capitalistic institutions, through the very desire for wealth. The instinct of domination is not necessarily ferocious or predatory; it may be satisfied by the achievements of peace as well as by those of war. Not a little has been gained through the mere circumstance that it is so largely shifted from the political and military sphere to the industrial. Better that we should have Napoleons of industry than the blood-guilty Napoleon of history. And yet we may wish for even more progress in the same direction. The spirit in which Washington exercised his leadership in the political field was resplendently nobler than the spirit of Napoleon. So the future captain of industry may be actuated by ideals finer than those now traditional. How to achieve such a result

is admitted by the open-minded thinker, however warm his social sympathies, to be a crucial problem. Can we reconcile industrial leadership with industrial democracy? Can we secure under a different organization and with other kinds of stimulation the directness and the rapid action of great personalities, sweep away the compromises and the vacillations of the vague general will?

We come thus to the last-named among the instinctive tendencies, that of devotion, or — since we have in mind the community as a whole — public spirit. How far is this also to be enlisted in the industrial struggle? How far is it true that business is necessarily business, and in no way to be confounded or mixed with charity, public service, conscious effort for general betterment?

That the altruistic impulse must be admitted to be a force in the conduct of public affairs, I have already explained. Nor can it be contended that private business is quite beyond its influence. Possibly such mani-

festations as the pensioning (overt or disguised) of old employees, or the continued operation of factories without profit for the sake of merely maintaining employment, should be set aside as sporadic. But in the sphere of corporate organization we have at least one form of sustained activity that rests on a sense of duty, on social solidarity. The management of large corporations through directors would not otherwise have been possible. We need not be reminded that the confidence imposed in persons having fiduciary obligations, such as directors and managers, has too often been abused. Yet it is obvious that if it had been always and everywhere abused, the whole system of delegated management would long ago have broken down. In the great majority of cases, directors have been zealous and sincere in promoting the interests of shareholders; and they have been so because they have felt a sense of honor and duty. It is not verbiage or self-deceit when we find men of affairs declaring that they have accepted a directorship because

they believed they could be of service. It is the genuine expression of a sense of loyalty and devotion to which the ordinary conditions of business give little scope. And if there is combined with it some satisfaction of the love of distinction, some stimulus from emulation, we must remember that actuation by a single motive is the rarest of things.

In the mixture of motives which we have found in the desire for wealth it must be admitted that the altruistic instinct has played no large part. Nor are we warranted in expecting that it will play a commanding part in the future. The instincts which relate to the narrower self, not to the wider, and more particularly those of emulation and domination, are likely to remain preponderant in their influence on industrial activity so long as the present régime of private property endures. But it is by no means out of the question that there shall be a greater infiltration of the spirit of devotion, some larger scope for its satisfaction, even in the

conduct of private and competitive industry. Deliberate regard for the general welfare is within the possibilities of private business as well as of public. An immense deal depends, indeed almost everything depends, on the extent to which the sense of social solidarity is enlarged. The consciousness of kind — to use the telling though much-abused phrase of Professor Giddings — may be narrow or wide. That very example of loyal devotion which I have just adduced — the conscientious management of corporate affairs by directors for the benefit of a large body of shareholders — rests largely on the circumstance that directors and shareholders belong in the main to the same social stratum; they have common opinions, common standards, common sympathies. But the striking phenomenon in our modern world, and especially in our United States, is the widening range of this gregarious feeling, the consciousness that we are all, even though less than kin, yet something of kind. I will not say that human nature has altered during the last century; the

biologists would promptly challenge the assertion. But the conditions of the environment have altered, under multiform and mysterious influences, combining to bring an unmistakable strengthening of those traits which go with the wider self. A stronger sense of social sympathy enfolds us all. This was the great moving force in the social legislation of the nineteenth century; probably it will be a force of even greater power in the present century. It is not to be expected that it will affect what we call private affairs as much as those which we admit to be public. But under the subtle influence of a pervasive sentiment of interdependence and of spontaneous approbation for public-spirited action, greater regard for the general good may be expected even in ordinary pecuniary operations. Business will not necessarily remain solely business.

It is easy to be frothy on a subject of this sort. A friendly minister of the gospel once wrote me, in criticism of some utterances of mine on a wages dispute, that this whole

matter could never be "settled" except by "the application of the golden rule to business." I prefer to fight shy of such large phrases. Indeed we do well to refrain from expecting anything like a "settlement." The ultimate outcome of social and industrial development is hidden from our view, — if indeed there be any ultimate outcome. As regards the topics taken up in these lectures, we must be content to face and accept the complexity of human motivation, the interplay of conflicting instincts, a tantalizing uncertainty concerning the possibilities of modifying their relative strength. And yet we may cherish none the less a hope that in the future they may be made to work for human happiness more effectively than has been the case in the past.

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